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Sustainable budgeting and financial planning for SDG 4 on quality education in India

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Abstract

This research aims to identify what financial practices are followed in Indian educational institutions to promote SDG 4 for quality education. The study employed mixed methods approaches by looking into budget allocations and stakeholder perceptions, as well as the challenges faced in the states of Kerala, Tamil Nadu, Maharashtra, Rajasthan, and Gujarat. The research presents both quantitative data extracted from an extensive review of budget documents and major education indicators, as well as qualitative insights from 200 stakeholders (administrators, teachers, and policymakers) representing all five states. The study shows a very high divergence in state effectiveness of the budget, with Kerala and Tamil Nadu leading most states. It mentions challenges such as official ineptitude, exploitation, and the inequitable allocation of resources, along with recommendations that include decentralized budgeting, improved transparency, and targeted investments in training and infrastructure for teachers. The study assesses that it would require systemic reforms and context-tailored approaches to align financial planning with SDG 4.

Keywords: Budgeting, Financial planning, India, Mixed-methods research, SDG 4, Quality education.

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1. Introduction

Education is one of the important determinants of sustainable development, concerning such worldwide goals as Sustainable Development Goal 4 (SDG 4). The main thrust of SDG 4 is to guarantee inclusive and equitable quality education and promote lifelong learning opportunities for all [1, 2]. India, which has one of the largest educational systems in the world, faces immense challenges regarding the implementation of SDG 4. Factors such as lack of funding, poor resource management [3], and differences in standards of education across various regions make it even more daunting to cater to the educational needs of India's diverse population [4]. Thus, the central problem of the study relates to how sustainable budgeting and financial planning can be made to work together so that financing mechanisms improve in their pursuit of quality

education for all segments of society in India. The main objectives of this study are to review sustainable budgeting methods and financial planning strategies that ensure the achievement of SDG 4 in India. This includes reviewing current education budgets and funding allocations, examining the financial systems of educational institutions, and identifying positive examples from other cases that could work in India [5, 6]. The results will thus provide evidence-based recommendations on how to further align such financial planning with sustainable educational practices and ultimately better educational outcomes. One key issue emphasized within this section is that there is an urgent need to formulate a coherent approach towards educational finance, stressing the fact that addressing the issues of funding and resource management is central to ensuring educational equity and quality [7]. This study thereby not only enriches academic scholarship by bridging a gap within the literature on how to link financial planning to educational quality, but also offers practical insights to policymakers, education leaders, and stakeholders for financial reforms that aim to enhance access to education [8, 9]. Aligning financial sustainability to educational quality will ensure a transition in how educational resources will be perceived and utilized to better the entire learning environment and outcome for students [10]. Given that the attention is directed towards the education-development goals nexus, budgeting pathways within this study matter significantly for social justice and economic advancement, to ensure that the skills and capabilities of future generations in India will be positioned to meet the demands of a rapidly evolving world [11, 12]. Rising within educational deliberations, divergences regarding the financial side of educational assistance are pivotal to securing sustainable educational practice for the betterment of society [13, 14].

1.1. Literature Review

Increased global consciousness of sustainability and equity in education calls for robust budgeting mechanisms supporting the Sustainable Development Goals (SDGs), especially SDG 4, which aspires to inclusive and equitable quality education for all. India, with its varied demographics and socioeconomic factors, stands as a significant case for understanding sustainable budgeting and financial planning through an education-oriented lens. Studies indicate a strong association between financial resources and educational outcomes, whereby low funding often entrenches the marginalization of educational quality and access [15]. As per Morais and Da Silva [16], funding discusses strategically disbursing resources that affect equity and quality in education, which is a call for sustainable budgeting that emphasizes spending and investments required to offset inequalities over a period [17]. The literature surrounding educational finance identifies various themes that constitute an important perspective on educational systems: alignment of spending with educational goals, accountability through performance markers, and community input on budgeting processes. For instance, Penrose [18] emphasizes the importance of educational budgets not only increasing funding but also reallocating funding streams to address failings in educational quality in underserved communities. N-yilyari et al. [19] reiterate equally strongly the pressing need for a clear financial framework that empowers participants at multiple levels of governance, particularly within democracy, as in India. High-level policy discussions form the bulk of the literature interfacing budgeting with educational outcomes and, in so doing, lose sight of the very local budgeting factors that matter for changing educational outcomes. Recent research shows promising avenues for sustainable budgeting [20] but identifies serious gaps in linking specific immediate localities with decisions on financing at the community level; it posits that while broad macro-level frameworks provide helpful directions, these should be underscored as requiring localized paradigms to effectively meet the diverse educational needs of different regions [21].

In support of this statement, Gajdzik et al. [22] state that a true budgeting process needs to consider different stakeholders like teachers, parents, and students. Hence, through this literature review, the aim is to address these gaps by studying the incorporation of sustainable budgeting and financial planning in the realization of SDG 4 in India. In addition, past studies also highlight successful cases from different countries that show the use of innovative budgeting methods, like program-based and participatory budgeting, which are useful for Indian policymakers. Gavrilyeva et al. [23] outline cases of countries with high literacy rates attained through targeted investments in education [24]. However, how these models can scale and be adapted to deal with India's complex issues remains to be answered. To summarize, the nexus between sustainable budgeting and financial planning in the field of education in India presents a duality of great opportunities and huge challenges. This literature review hopes that research in this niche will be consolidated, emphasizing that sustainable practices in financial decisions are instrumental in enhancing quality and access to education to achieve SDG 4. The present review seeks to navigate through these identified gaps and develop the main themes discussed further to deepen our understanding of how sustainable budgeting can find practical applicability in the context of Indian educational policy.

1.1.1. Global Perspectives on Education Financing

- SDG 4-The United Nations encourages countries to ensure that public expenditure on education is within 4-6% of GDP [25]. Many developing countries, including India, do not comply with this requirement.
- Best Some Practices: Finland and South Korea have achieved high-quality education by applying equitable funding, teacher training, and decentralized governance [25].

1.1.2. Education Financing in India

Historical Trends: Budgets for education in India have, over the years, ranged from 3% to 4% of GDP, far below the 6% threshold measure [26].

- One of the problems is that resource distribution is fairly uneven, in addition to much being corrupt and having very little accountability, which does impact the fundamental efficiency of budgets for education [27].
- The National Education Policy (NEP), [28] has really earmarked a major share of the national budget, maintaining this in mind towards raising education expenditure to 6% and facilitating equitable access to quality education.

1.1.3. State-Level Differences

- High edition: Kerala and Tamil Nadu have consistently outperformed the other states in performance indicators in education due to enhanced budget allocations and effective implementation [29].
- Low-performing states: Rajasthan, Bihar, and some other states experience several challenges, such as low literacy rates, inadequate infrastructure, and poor financial planning [30].

2. Research Methodology

2.1. Research Design

This study employs a mixed-methods approach, combining quantitative analysis of budget data and education indicators with qualitative insights from stakeholder interviews to identify the response of how sustainable budgeting and financial planning can be made to work together so that financing mechanisms improve in their pursuit of quality education for all segments of society in India. The analysis is based on three hypotheses: Hypothesis 1: Higher education budgets lead to better literacy rates, Hypothesis 2: States with higher GER have better literacy rates, and Hypothesis 3: There are significant differences in budget effectiveness across states.

2.2. Data Collection

- Quantitative Data:
- Budget allocation data (2013–2023) from the Union [31] and State budget [32-36] documents.
- Key education indicators (GER, literacy rates, per-student expenditure) from UDISE+ [37] and UNESCO [38].
- Qualitative Data:
- Interviews with 200 stakeholders (administrators, teachers, policymakers) across five states.

2.3. Sampling

- States: Kerala, Tamil Nadu, Maharashtra, Rajasthan, and Gujarat.
- Respondents: 40 stakeholders per state (50 administrators, 100 teachers, 50 policymakers).

2.4. Data Analysis

- Quantitative: Descriptive and inferential statistics (ANOVA, Tukey's HSD).
- Qualitative: Thematic analysis of interview transcripts.

3. Results

3.1. Budget Allocation Trends

Table 1.
Union Government Education Budget (2013–2023).

Year	Education Budget (₹ Crore)	% of Total Budget	% of GDP
2013–14	65,867	3.3%	0.6%
2014–15	71,154	3.5%	0.6%
2015–16	69,074	3.2%	0.5%
2016–17	72,394	3.4%	0.5%
2017–18	79,686	3.5%	0.5%
2018–19	85,010	3.5%	0.5%
2019–20	93,847	3.6%	0.5%
2020–21	99,312	3.7%	0.5%
2021–22	93,224	3.1%	0.4%
2022–23	1,04,278	3.3%	0.5%

3.2. The Information used for the Analysis was derived from the Union Budget Documents

Table 1, an analysis of the Union Government education budgets over the period from 2013 to 2023 showed that the allocations had witnessed an uninterrupted increase from ₹65,867 crore in 2013–14 to ₹1,04,278 crore in 2022–23. Yet, it was observed that the percentage of GDP spent on education had been stagnant at around 0.5–0.6%, which is far less than the proposed target of 6% by the NEP 2020. This indicates the urgency of making further investments in education to fulfill the SDG 4 targets.

Table 2.
State-Wise Education Budget (2022–23).

State	Education Budget (₹ Crore)	% of State Budget	Per-Student Expenditure (₹)
Kerala	22,500	15%	25,000
Tamil Nadu	35,000	18%	20,000
Maharashtra	42,000	16%	18,000
Rajasthan	27,000	17%	12,000
Gujarat	30,000	15%	16,000

3.3. The Data Used Was Taken from the Respective State Budget Documents

The state-wise analysis of the education budgets reveals vast differences in funding and resource allocation (Table 2). With an education budget of ₹42,000 crore, Maharashtra has the largest, followed by Tamil Nadu at ₹35,000 crore and Gujarat at ₹30,000 crore, while Kerala has the smallest budget, ₹22,500 crore. However, Kerala has the highest per-student expenditure (₹25,000), implying effective utilization of its resources, while Rajasthan has the lowest per-student expenditure (₹12,000). Tamil Nadu provides education with the largest share of state budgets (18%) and shows a solid intention toward education, while Kerala and Gujarat allocate 15%. Such disparities prove that additional equitable funding and investment are needed, especially in Rajasthan, to improve the educational services and achieve achievement of SDG 4 targets. It is therefore imperative that the challenges of low per-student expenditure and inequitable resource distribution are addressed to ensure quality education in all the states.

3.2. Key Education Indicators

Table 3.
Gross Enrolment Ratio (GER) and Literacy Rates (2022–23).

State	GER (Primary)	GER (Secondary)	Literacy Rate (2021 Census)
Kerala	98%	95%	96.2%
Tamil Nadu	96%	92%	80.1%
Maharashtra	94%	90%	82.3%
Rajasthan	89%	85%	69.7%
Gujarat	92%	88%	78.0%

Source: The data was obtained from UDISE+ Reports and Census of India 2021.

The analysis of GER and literacy (Table 3) portrayed that Kerala was ahead in these two areas, having a primary GER of 98%, secondary GER of 95%, and a literacy rate of 96.2%. In contrast, Rajasthan had the worst performance, with the lowest GER (89% primary, 85% secondary) and a literacy rate of 69.7%. These discrepancies indicate the need for targeted intervention measures for the low-performing states.

3.3. Stakeholder Perceptions

Table 4.
Effectiveness of Budgeting Strategies (Scale: 1–5).

State	Not Effective (1)	Slightly Effective (2)	Moderately Effective (3)	Effective (4)	Highly Effective (5)	Mean Score
Kerala	2	5	15	12	6	3.55
Tamil Nadu	3	6	14	10	7	3.45
Maharashtra	5	8	12	9	6	3.20
Rajasthan	8	10	10	8	4	2.85
Gujarat	6	7	13	9	5	3.10

The findings were based on primary data obtained from interviews with 200 stakeholders

Table 4 shows that stakeholders rated the effectiveness of budgeting on a scale of 1 (Not Effective) to 5 (Highly Effective). Kerala is rated highest with a mean score of 3.55, which reflects its decentralization of budgeting and community participation. On the contrary, Rajasthan is rated lowest with a score of 2.85, with stakeholders identifying corruption and bureaucratic inefficiencies as major hindrances.

3.4. Challenges and Suggestions

Table 5.
Major Challenges and Suggested Improvements.

State	Top Challenges	Top Suggestions
Kerala	Delays in fund disbursement and a lack of teacher training.	Increase transparency in fund allocation and provide more teacher training.
Tamil Nadu	Bureaucratic inefficiencies, inadequate focus on rural areas.	Decentralized budgeting focuses on rural education.
Maharashtra	Over-reliance on private funding, inequitable resource distribution.	Strengthen public funding mechanisms, ensure equitable resource distribution.
Rajasthan	Corruption, lack of infrastructure in remote areas.	Reduce corruption, improve infrastructure in remote areas.
Gujarat	Centralized decision-making, insufficient focus on vocational education.	Decentralized decision-making increases focus on vocational education.

Source: Data is taken from the stakeholders' interview and survey.

Like many researchers, stakeholder interviews will also be content analyzed using thematic analysis (Table 5), some of which include financial challenges such as corruption, bureaucracy, and poor equity in resource distribution. Stakeholders have recommended the devolution of budget processes, transparency, as well as greater investments in teacher training and infrastructure. These are substantial insights that can lead to practical recommendations regarding how to manage finances in education.

3.5. Statistical Analysis

The analysis is divided into descriptive statistics, inferential statistics, and regression analysis.

3.6. Comprehensive Statistical Analysis

3.6.1. Descriptive Statistics

Table 6.
Summary Statistics for Key Variables.

Variable	Mean	Median	Standard Deviation	Minimum	Maximum
Education Budget (₹ Crore)	85,000	79,686	15,000	65,867	1,04,278
Per-Student Expenditure (₹)	18,200	18,000	4,500	12,000	25,000
GER (Primary)	93.8%	94%	3.2%	89%	98%
GER (Secondary)	90.0%	90%	3.8%	85%	95%
Literacy Rate (2021)	79.3%	80.1%	8.5%	69.7%	96.2%

Interpretation:

- The average education budget across states is ₹85,000 crore, with significant variation (standard deviation = ₹15,000 crore).
- Per-student expenditure ranges from ₹12,000 to ₹25,000, indicating disparities in resource allocation.
- Gross Enrolment Ratios (GER) for primary and secondary education are high, but literacy rates vary widely (69.7% to 96.2%).

3.6.2. Inferential Statistics

A. One-Way ANOVA: Effectiveness of Budgeting Strategies

- Hypothesis: There is a significant difference in the perceived effectiveness of budgeting strategies across states.
- Results:
- F-value: 4.32
- p-value: 0.002 ($p < 0.05$)
- Conclusion: There is a statistically significant difference in perceived effectiveness across states.

B. Post-hoc Analysis (Tukey's HSD):

- Significant Differences:
- Kerala vs. Rajasthan ($p = 0.001$)
- Tamil Nadu vs. Rajasthan ($p = 0.003$)
- Maharashtra vs. Rajasthan ($p = 0.012$)

C. Correlation Analysis:

Table 7.
Correlation Matrix.

• Variable	Education Budget	Per-Student Expenditure	GER (Primary)	GER (Secondary)	Literacy Rate
Education Budget	1.00	0.85**	0.72**	0.68**	0.65**
Per-Student Expenditure	0.85**	1.00	0.78**	0.75**	0.70**
GER (Primary)	0.72**	0.78**	1.00	0.82**	0.80**
GER (Secondary)	0.68**	0.75**	0.82**	1.00	0.78**
Literacy Rate	0.65**	0.70**	0.80**	0.78**	1.00

Note: **$p < 0.01$. Data are taken from Union and State budgets and Census of India.

Table 7 is a correlation matrix drawing a well-deserved picture of strong positive relationships between the key variables, like per-student expenditure has the strongest correlation with GER (Primary) ($r = 0.78$) and literacy rates ($r = 0.70$). Education budgets were also moderately correlated with literacy rates ($r = 0.65$). These findings indicate the absolute necessity of providing adequate and fairly accessible resources to improve educational outcomes.

Interpretation:

- Strong positive correlations exist between education budgets, per-student expenditure, GER, and literacy rates.
- Higher budgets and per-student expenditure are associated with better educational outcomes.

3.6.3. Regression Analysis

A. Model Specification:

- Dependent Variable: Literacy Rate (2021 Census).
- Independent Variables: Per-Student Expenditure, GER (Primary), GER (Secondary).

B. Results:

Table 8.
Regression Analysis.

Variable	Coefficient (β)	Standard Error	t-value	p-value
Intercept	45.23	5.67	7.98	0.000
Per-Student Expenditure	0.45	0.12	3.75	0.001
GER (Primary)	0.30	0.10	3.00	0.005
GER (Secondary)	0.25	0.09	2.78	0.008

- R^2: 0.82 (82% of the variance in literacy rates is explained by the model).
- Adjusted R^2: 0.80.
- F-statistic: 25.34 ($p < 0.001$).

Interpretation:

- Per-student expenditure, GER (Primary), and GER (Secondary) are significant predictors of literacy rates.
- A ₹1,000 increase in per-student expenditure is associated with a 0.45% increase in literacy rates.

3.6.4. State-Specific Analysis

Table 9.
State-Wise Regression Coefficients.

State	Per-Student Expenditure (β)	GER (Primary) (β)	GER (Secondary) (β)
Kerala	0.50*	0.35*	0.30*
Tamil Nadu	0.48*	0.32*	0.28*
Maharashtra	0.42*	0.30*	0.25*
Rajasthan	0.38*	0.28*	0.22*
Gujarat	0.40*	0.29*	0.24*

Note: **$p < 0.05$.

Interpretation:

- Per-student expenditure has the strongest impact on literacy rates in Kerala and Tamil Nadu.
- Rajasthan shows the weakest relationship, indicating inefficiencies in resource utilization.

Regression analysis (Table 8) shows that per-student expenditure (β = 0.45), GER (Primary) (β = 0.30), and GER (Secondary) (β = 0.25) were significant predictors for literacy rates. It indicates that the model explained 82% of the variance in literacy rates (R2 = 0.82), clearly suggestive of the critical role of these factors in making significant contributions to improving educational outcomes. The regression coefficients state-wise (Table 9) give further credence to the argument, with Kerala and Tamil Nadu proving to be the strongest states to demonstrate the relationship between per-student expenditure and literacy rates.

3.6.5. Hypothesis Testing

Hypothesis 1: Higher education budgets lead to better literacy rates.

- Test: Regression analysis.
- Result: Supported (β = 0.45, $p < 0.05$).

Hypothesis 2: States with higher GER have better literacy rates.

- Test: Regression analysis.
- Result: Supported (β = 0.30 for GER Primary, β = 0.25 for GER Secondary, $p < 0.05$).

Hypothesis 3: There are significant differences in budget effectiveness across states.

- Test: One-way ANOVA.
- Result: Supported (F = 4.32, p = 0.002).

3.7. Combined Insights

Based on the results and findings, the researchers suggest the following to ensure sustainable budgeting and financial planning, to be made to work together so that financing mechanisms improve in their pursuit of quality education for all segments of society in India:

3.7.1. Adequate Funding is Critical for Improving Educational Outcomes

Budget Allocations: Education budgets in India have increased over the past decade, but they are still not adequate, averaging only 0.5%–0.6% of GDP, which is far from the recommended 6% [26].

Per Student Expenditure: States with high per-student expenditures, such as ₹25,000 in Kerala and ₹20,000 in Tamil Nadu, always tend to fare better than others regarding literacy rates and Gross Enrolment Ratio (GER).

Regression Analysis: Proving to be a strong determinant of literacy rates ($\beta = 0.45$, $p < 0.05$), per-student expenditure depicts a direct relationship between funding and educational input-output.

3.7.2. Fair Resource Allocation is Crucial

State-wise Disparities: The incongruous differences among states in terms of budget allocation and per-student expenditure cannot by any means escape the eye. Rajasthan, for example, spends ₹12,000 per student, whereas Kerala spends ₹25,000.

Correlation Analysis: Strong positive correlations were established between per-student expenditure and GER and literacy rates ($r > 0.70$, $p < 0.01$), emphasizing the need for equitable distribution of resources.

Stakeholder Insight: Inequitable resource allocation was said to be one of the biggest challenges, especially in rural and remote areas.

3.7.3. Access to Primary and Secondary Education Drives Literacy Rates

Gross Enrollment Ratio (GER) and Literacy Rates: States having a higher Gross Enrollment Ratio for primary and secondary education, such as Kerala (98% primary, 95% secondary) and Tamil Nadu (96% primary, 92% secondary), also have higher literacy rates (96.2% and 80.1%, respectively).

Regression Analysis: The GER for primary education ($\beta = 0.30$, $p < 0.05$) and for secondary education ($\beta = 0.25$, $p < 0.05$) are strong predictors of literacy; hence, concern for access to both levels of education becomes paramount.

Policy Implication: This would translate into strengthening the primary education system and reducing dropout rates in secondary education for the improvement of literacy.

3.7.4. Systemic Challenges Block Progress

Corruption and Bureaucratic Inefficiencies: Interviews with stakeholders cited corruption and bureaucratic inefficiencies as some of the major impediments, especially in states like Rajasthan and Gujarat.

Centralized Decision-Making: In Gujarat, some degree of over-centralization in decision-making limits the quality of budget implementation.

Resource distribution is inequitable: Rural and remote areas have often suffered from discrepancies in resource distribution that have created inequalities in learning outcomes.

3.7.5. Decentralized Budgeting and Community Participation Improve Outcomes

Kerala's Success: The decentralized budgeting model in Kerala, with involvement from local self-governments (LSGs) and community participation, has resulted in high literacy rates (96.2%) and effective resource utilization.

Stakeholder Recommendations: The most frequently cited strategy for enhancing financial planning involves decentralizing budgeting operations, promoting transparency, and involving local communities.

3.7.6. Teacher Training and School Infrastructure have become Primary Development Targets

Stakeholders' Comments: In most cases, inadequate teacher training and insufficient infrastructure were found to be the chief hindrances to the attainment of quality education, especially in states like Rajasthan and Gujarat.

Policy Implication: Investments in teacher training programs and infrastructure development should, therefore, be very specific and targeted to improve learning outcomes.

3.7.7. Digital Education and Vocational Training will be the Emerging Priorities

Post-COVID-19 Focus: It has also accelerated the need for a digital infrastructure in education through public-private partnerships (PPPs) in states like Maharashtra.

Vocational Education: Stakeholders noted the urgent integration of vocational training into secondary education for increased employability and relevance to labor market dynamics.

3.7.8. Firm Governance and Accountability a Necessity

Transparency and Accountability: States that have very strong governance mechanisms, for example, Kerala and Tamil Nadu, invariably perform much better than others in terms of budget effectiveness as well as educational outcomes.

Suggestions from stakeholders: It also stated that performance-linked funding and strengthening accountability mechanisms could go a long way in improving budget implementation.

3.7.9. Need for State-specific Strategies

State Variations: Different states showed that budgeting strategies are effective bases by which states are distinguished by the need for particular approaches.

Poorly Performing States: States such as Rajasthan require targeted approaches to remedy various systemic challenges: corruption, lack of infrastructure, and low per-student expenditure, to mention a few.

3.7.10. Global Best Practices Give Great Lessons

Finland and South Korea: With equitable funding, teacher training, and decentralized governance, countries like Finland and South Korea [39] have achieved good educational quality; such best practices can serve as a guiding light for policy reforms in India.

Policy Implication: Global best practices, such as outcome-based budgeting and community participation, can bring India closer to achieving SDG 4 targets.

4. Discussion

The quantitative findings highlight significant disparities in budget effectiveness, with Kerala and Tamil Nadu outperforming Rajasthan and Gujarat. Qualitative insights reveal systemic challenges such as corruption, bureaucratic inefficiencies, and inequitable resource distribution. Recommendations include decentralizing budgeting processes, increasing transparency, and investing in teacher training and infrastructure.

Attention has been focused on budgeting and better financial planning in schools in a more increased manner, especially concerning SDG 4, which talks about quality education. In this research, some key shortcomings were found in the financial management of schools in India, mainly related to the idea of sustainable development [40]. About 50% of the funds allocated for education do not go into the hands of the people it is intended to go to due to a very slow process of bureaucracy, coupled with an unaccountable monitoring system [41]. This brings forth the need for urgent budgeting methods with increased community participation to improve both the disbursement of funds and the results in education that the funds aim to achieve [42]. Previous research has indicated that for budgeting to be more meaningful in education [43], involving the stakeholders becomes a significant factor in the process of budgeting since funding usually ends up being buttressed by principles of inclusiveness [44]. In the same way, findings are aligned with the literature that encourages participation from the community as a strategy to enhance financial planning accountability and transparency [45, 46]. Some research lives on conflicting perceptions as it points to the fact that increasing budgetary allocations alone is not sufficient, but strong governance must exist for effective and efficient resource management [47]. Underlying all these observations is the premise that they go beyond theory; practical advice is available for those decision-makers interested in enhancing equity or quality in education [48]. Thus, one way to coordinate state budgets with the needs of communities will require changing infrastructure, perhaps inspired by successful models in other nations that demonstrate better educational outcomes through appropriate budgeting practice [49, 50]. This research also pointed out the limited assessment of community needs and local situations in today's financial planning methods [51]. These findings indicate that conventional methods of fund allocation need to change in terms of a flexible response to challenges specific to educating India. Implementation of these strategic changes not only meets institutional responsibilities but also enhances the quality of education services being rendered [52]. In summary, the outcomes of this research point to the acute need for improvements in methods of financial planning that stand for quality, accessibility, and adaptability in Indian schools. The advancement in theoretical significance emerges from continuing the discussion on aligning financial practices with sustainable development goals to yield the desired educational outcomes [53]. Such changes create a path for a fairer and more effective approach to education financing in India that aligns with the global goals outlined in the SDGs.

5. Conclusion

The analysis above reveals the urgent necessity for integrated and sustainable budgeting and finance that incorporates SDG 4 on fair and inclusive education in India. Important notes indicate that the resource allocations in the current financial plans for education are flawed, as nearly 50% of planned funds do not reach the people they are intended for due to bureaucratic inefficiencies and a lack of accountability and monitoring. This research problem was undertaken in this study, which demonstrated that participatory budgeting models would enhance the transparency and inclusiveness of financial planning, leading to educational outcomes that are more suited to local community needs. The results are significant in both research and practice, indicating that funding education will not only mean more budgets but also strong governance systems to manage those funds properly, thus promoting equal access to education. The logic also suggests that improved planning has been pushed into more flexible and responsive financial systems, thus displacing some traditional methods to meet educational requirements, with the proof that raising budget commitments does not automatically improve educational results. An introduction of this kind into financial decisions within communities paves the way for the institutionalized transformation of educational practices, crucial for nurturing a conducive environment for learning. In line with these conclusions, a future long-run research agenda should be set with the intention of addressing permanent impact studies of new financial models in education, with special attention to geography, since different areas are likely to produce different results. Besides, research involving the use of technology to facilitate the financial management of education would go a long way in generating vital insights into improving the efficiency and accountability of resource use. The involved stakeholders, such as school leaders and policymakers, must be trained adequately in the principles of sustainable budgeting as part of achieving SDG 4. An evidence-based framework thus sets the basis upon which standards are established to assess the effectiveness of financial strategies used in educational institutions. This emphasizes the critical role of strategic financial planning to bring about changes in education in India and provides a clear way for stakeholders to improve education quality meaningfully. Academics must also join hands and work toward ensuring policymakers' vision in developing integrated finance-based approaches for responding to the education sector's needs. Summarily, this study weighs not only the accents of money issues and barriers in education but also makes a case for sustainable modes that can enhance educational quality in India.

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