Texila International Journal of Academic Research
ISSN: 2520-3088
DOI: 10.21522/TIJAR.2014.12.03.Art028

The Allocation and Impact of Oil and Gas Revenue on Rural Educational Infrastructure and Outcomes in Guyana (2021–2024)

Deodat Persaud[1*], N. S. Santhi[2]
[1]*College of Management, Texila American University, 2442 Plantation Providence, East Bank Demerara (EBD), Guyana, South America*
[2]*SRM University Sikkim, Texila American University*

Abstract

This paper examines the allocation and impact of oil and gas revenues on rural infrastructure in Guyana within the period of 2021 to 2024. Guyana began oil production in 2019, and this has resulted in an expansion of its fiscal capacity exponentially. A significant chunk of the revenue has been devoted towards improving educational outcomes and quality in rural areas. This study evaluates budgetary allocations, assessing infrastructure developments along with education access and performance in Region 5. Using a quantitative method approach, document analysis and structured questionnaires were used to gather data from 260 educators in a full enumerative sample, and SPSS was used for analysis. Cronbach's Alpha ($\alpha = 0.81$), expert review, and triangulation using secondary documents were used to confirm reliability. The findings have shown a marginal increase in budgetary allocations, and considerable improvement in school infrastructure. However, there has been marginal progress relative to educational outcome but this is marred with the issue of disparities in implementation. Furthermore, prudent monitoring is cited as a challenge in the realization of intended benefits. This paper offers several key recommendations including but not limited to improving coordination, effective stakeholder engagement, and a commitment to increasing accountability and transparency. These can potentially maximize the impact of oil and gas revenue in this sector.

Keywords: *Access, Guyana, Infrastructure, Oil Revenue, Outcomes Rural Education.*

Introduction

Amid its emergence as an oil-rich country, Guyana has unprecedented fiscal space; this is both an opportunity for, and challenge to, sustainable development. One of the key areas for strategic investment is in education, which continues to be a platform for long-term human capital development. But rural education in Guyana has

historically been characterized by systematic disparities, including long-standing infrastructural shortfalls, a shortage of teaching resources, and inequalities in student performance compared to urban areas.

In contrast, the Government of Guyana has pledged a share of its oil revenues – managed through the NRF – to fill these deficits and, with it, the development commitment and ability to promote inclusive growth. National budgets 2021-2024 read with an expenditure increase for school infrastructure, particularly in rural areas, but the value of these investments in improved learning quality and equity are not well studied.

This paper examines the extent to which petroleum funded transfers have translated into improvements in rural educational facilities, access to education and student outcomes, paying attention to Region 5 (Mahaica-Berbice) in particular. Combining budget analysis with interviews with key stakeholders, the study examines the effectiveness and fairness of these

Received: 24.07.2025 ***Accepted: 29.07.2025*** ***Published on: 31.07.2025***
****Corresponding Author: deodatpersaud25@yahoo.com***

interventions. It is intended to contribute to larger policy discussions concerning natural resource governance, accountability in public investment and the role of oil wealth in transfiguring social sectors in developing economies.

Context

Since 2020, Guyana's national development policy has increasingly been informed by the revenue from oil, with direct disbursements from the Natural Resource Fund (NRF) constituting a core element of the Guyana's public finance architecture. Education – long identified as a driver of inclusive growth – is one of the main victors of this fiscal largesse. Capital allocations for educational infrastructure, especially in far-flung and rural areas historically short of investment, are relatively higher in national budgets for 2021-24.

In Region 5 (Mahaica-Berbice), revitalization works were planned for schools, new classroom blocks would have been built while the dormitory facilities would have been expanded. They include relieving congestion, providing better access for hinterland students and the upgrading of learning environments in alignment with national education objectives. [1].

In the past, several international bodies have noted that despite financial allocations, implementation constraints became apparent during implementation. Both the World Bank (2020) and UNDP (2010) reports repeatedly pointed to:

1. Project cost over-runs/ material procurement delays, and
2. Contractor performance that is just getting unraveled, and
3. Poor and lack of local monitoring and evaluation systems. [2-4].

Additionally, Williams (2025) noted that inequalities in the distribution of resources between sub-regions led to concerns about equality and transparency. Coastal schools experienced more rapid improvements, whereas schools in more remote and/or Indigenous-serving communities, like Moraikobai, were left behind—reproducing spatial and socio-economic disadvantage [5].

These contextual dynamics emphasize that we should not just monitor the flow of money from natural resources, but rather question how the money is spent, and how effective and fair the spending is on the ground. The analysis is set within the context of this changing governance environment and considers whether petroleum wealth is being converted into sustainable education conditions for rural Guyanese.

Purpose of the Study

This study evaluates national budget composition trends, examines infrastructure development in Region 5, and reviews data on educational access and student performance to understand the extent to which oil and gas money has influenced rural education in Guyana. It seeks to determine whether an increase in fiscal resources has resulted in improved school infrastructure and student achievements/ learning. Finally, it also seeks to identify the main pressures and challenges that are affecting efficiency and equity.

Research Objectives

The study was guided by the following objectives:

1. To investigate the distribution of oil and gas revenue budgets educational infrastructure between 2021 and 2024 for Region 5 (Mahaica-Berbice).
2. To examine the spending trends and outcomes related to oil-funded infrastructure initiatives in Region 5
3. To analyze educators' views regarding the effects of oil revenue distributions on students' access to education and the quality of the educational environment.
4. To assess how educators perceive the impact of investments from oil funding on

student academic achievement in rural schools.

Review of Literature

Associative analysis on public resource allocation in education constantly points out that governmental fiscal input is highly contained in its governance mechanism. Although higher public spending is known to be positively correlated with infrastructural expansion and enhanced enrolment, point evidence from oil-violent developing economics further shows that in the absence of strong institutions, educational gains typically do not trickle down to improve education quality [6, 7].

This paradox is widely couched within the extant literature as the "resource curse," which refers to the phenomenon where resource rich countries perform poorly on social indicators as a result of governance problems, elite capture, and low absorptive capacity [8, 9]. In the case of education, Birdsall and Subramanian (2004) maintain that natural resources' wealth can also undermine governments' motivation to undertake inclusive human capital policies, mainly in rural or politically marginal areas [10].

Comparative experiences offer further insight. If Norway have shown how to translate resource wealth into a long-term educational investment through sovereign wealth management and participatory policymaking [11]. However, countries such as Nigeria and Venezuela exemplify the dangers of poor institutions and politicized education spending [12, 13]. Therein lies the paradox and perhaps reinforces the question on the right governance model for oil and gas resources.

Recent scholarship has also argued for the importance of local governance and stakeholder perceptions. As Kolstad and Wiig (2009) note, an absence of local voice and transparency may thus undermine even richly endowed aid interventions. World Bank (2018) outlines these as results-based financing, stakeholder engagement and transparent budgeting as important steps to alleviate the resource curse and consolidate their educational delivery systems. The divides recommend that education systems in resource-endowed countries require budget execution learning outcomes congruence and regional and community decision-making participation [14, 15].

In the case of Guyana, preliminary reviews of the Natural Resource Fund Act (NRF Act) and the national budgets of 2022 – 2024, evidence a commitment of borrowing against oil funds for increasing public investment, including in education (Ministry of Finance, 2023). GYD $12 billion was budgeted for rural education infrastructure between 2021 and 2024, with regions 5 benefitting directly. These capital projects consisted of the building of additional classrooms, lavatories and science laboratories (Ministry of Finance, 2023) [16, 17].

However, as this current paper documents, there are many hard problems that remain to be solved. Field evidence from Region 5 demonstrates that although there have been some infrastructural improvements, some resource allocation discrepancies still remain, slow project implementation and that stakeholders are not being included in the planning and monitoring activities. Numerous teachers also complain of an on-going shortfall in teaching material provision, restricted availability of educational technology, and little improvement in student achievement.

Similar to findings from oil-financed education projects in Ghana and Nigeria, where top down disbursements failed to result in bottom-up change as a result of bad governance, little capacity and excessive centralization mechanisms were in place [12, 13].

This thematic analysis of global literature and local evidence contributes to the understanding that high levels of resources are not a sufficient condition for transformation of

rural education systems. A strong governance architecture that is inclusive, transparent and locally responsive is essential for fiscal capital to be translated into better learning outcomes. In particular, this entails combining participatory planning, strengthening capacity for regional implementation and establishing strong accountability mechanisms for the use of funds [11, 15]

Theoretical Framework

This study is theoretically framed in two mutually reinforcing theories: the Resource Curse Theory and the Good Governance Framework.

Resource Curse Theory: Resource Curse Theory, first introduced by Sachs and Warner (1997), is one hypothesis arguing that nations with natural resource wealth exhibit low economic development as a result of the presence of weak institutions, rent seeking, and governance deficiencies [8]. Rather than driving development, natural resources can result in wasted public funds, lack of investment in key areas like education, and greater inequality. Within the context of oil-based development in Guyana, this theory offers a premise on which to assess whether oil monies have led to enhanced educational infrastructure and outcomes in rural areas, or whether the ills of the resource curse are being duplicated. A reoccurring statement is: "When institutional quality is low and decision making is unaccountable, resource abundance is a curse" [18].

Good Governance Framework: Good Governance Framework, promoted by organizations such as the World Bank and UNDP, focuses on transparency, participation, accountability, equity and efficiency in the management of the public sector [19]. This framework provides a useful context in which to also consider how oil-funded education projects in Region 5 have been organized, implemented, monitored, and regarded by stakeholders. It enables the study to examine if governance practices include all and contribute to equitable results in the education sector.

Combined, these frameworks facilitate a twinning of the structural risks involved in depending on natural resources with the institutional mechanisms that are required to guarantee the contribution of oil revenues to sustainable educational development.

Research Design

The study was quantitative and descriptive in nature and sought to critique the disbursement and use of oil and gas funds in rural education development in Guyana, more precisely Region 5 (Mahaica-Berbice). This methodological approach was suitable here since it enabled obtaining objective and numerical data on infrastructure investment, access, quality and education outcomes without managing variables.

Quantitative descriptive study is appropriate for public sector governance and policy implementation research, as it focuses on the systematic recording and analysis of measurable reality in order to infer phenomena about patterns in a population [20].

This methodology in this study contributed to being able to capture the broader picture of oil revenue expenditure in the education sector with its implications for service delivery as viewed by educators and available documents.

Population and Sampling

The target population was all teachers and education managers of public (primary, primary and secondary) schools in Region 5. A complete enumerative sample technique was used particularly in this sample study because of the single opportunity of the target population was manageable and also the researcher wanted to include as many subjects as he could collect a better representative sample.

Two hundred and sixty (260) fully surveyed responses were collected from teachers across the coastal, and riverine areas that provided

considerable ecological coverage of the sub-regional sampled locations. With this sample size, sufficient power was gained to generalize these findings to all of Region 5.

Unit of Analysis and Measurement Variables

Educators were chosen as the unit of analysis given their immediate interplay between the teaching context and policy products. The study utilized methodological design through a structured framework in which abstract constructs were connected to their observable indicators, a typical research design practice in education [20, 21]. These operational variables were constructed to measure perception and experience of the educators on oil revenue inspired educational reforms in Region 5.

Table 1. Operationalization of Key Constructs in Educator Perception Study

Construct	Operational Indicators
Perceived transparency	Awareness of funding sources, budget information
Infrastructure adequacy	Reported school upgrades, access to teaching resources
Participation in governance	Involvement in planning, consultations
Educational outcomes	Perceived impact on student performance, access
Construct	Operational Indicators

This framework allowed for the collection of standardized data across respondents while remaining grounded in the realities of frontline education delivery. Variables were recorded on a 5-point Likert scale for closed questions, so that the Likert scale ranged from "Strongly Disagree" to "Strongly Agree"), and also included some open-ended questions for explanations of particular lived experiences.

Data Collection Procedures

A structured questionnaire was used to collect data which was circulated to schools across the region in electronic and hard copy format. Ten teachers in an adjacent area tested the instrument to ensure clarity, resulting in minor wording revisions.

As well as the original survey data, secondary data was sourced from the following datasets:

1. National Budget Projections (2021-2024)
2. MoF reports on NRF allocations
3. Ministry of Education property and operational data
4. NGSA (National Grade Six Assessment) results for Region 5 schools

This review of documents assisted in placing educators' opinions in the context of real performance and financial trends.

Tools and Data Analysis

Coding and analysis were conducted in Microsoft Excel and SPSS. The following is the analysis method used:

1. Descriptive statistics (frequencies, percentages, means).
2. Graphs; bar, pie and table visualizations.
3. Open responses were thematically summarized for interpretive insight.

Note: NVIVO software was not applied, as qualitative data were limited in number and did not undergo full coding.

Reliability and Validity

The questionnaire was scrutinized for reliability by two experts in educational policy and pre-tested in a small pre-sample. Cronbach's Alpha was used to demonstrate that

the internal consistency of the scaled items was acceptable ($\alpha = 0.81$).

To guard against threats to validity, questions addressed intended study goals and secondary sources of information were used to check the veracity of reported perceptions (e.g., by comparing levels of budget awareness with actual capital allocations).

Ethical Considerations

The study conformed to the ethical principles of informed consent, voluntary participation, and confidentiality. Ethical approval was provided informally via a university-approved protocol. Anonymity of the participants was guaranteed and no personal identifiers (name, school) were obtained.

Limitations

Although the study attained a healthy regional sample, it was a study based within Region 5 only, which does restrict the generalizability to other areas in Guyana. In addition, it only used teacher perceptions, so the results may not reflect the experience of the students or community. Lastly, secondary data were used as no direct project in-situ assessment or validation was carried out.

Results

Breaking down national spending by time and allocation, it becomes apparent that between 2021-2024 more than GYD $12 billion was set aside for the improvement to rural educational buildings, infrastructure and facilities across the country and Region 5 (Mahaica-Berbice) is highlighted as one of the major beneficiaries. Oil revenues were central to these allocations, which flowed through the national budget and implemented through the Ministry of Education's Capital Program.

Below, figure 1 shows the trend of increasing the capital expenditure on region 5, for those four years. Figures show an increasing trend over the years, with allocations moving from GYD $313.5 million in 2021 up to about GYD $647 million in 2024.

The 2023 and 2024 Budget Estimates confirm that a total of GYD $1, 982, 013, 750 was allocated to Region 5 over the two years; the sum which ranks among the highest amounts which were allocated to the regions for nursery, primary and secondary education upgrades. These investments also focused on increased local financing of the program and in areas such as classroom repairs, new school blocks, and dormitory extension aimed at improving access and quality of schools serving rural and hinterland communities. [1, 2, 22].

This long-term investment profile reflects the government's policy priority to minimize the geographical divide in education through integrated, oil-financed interventions.

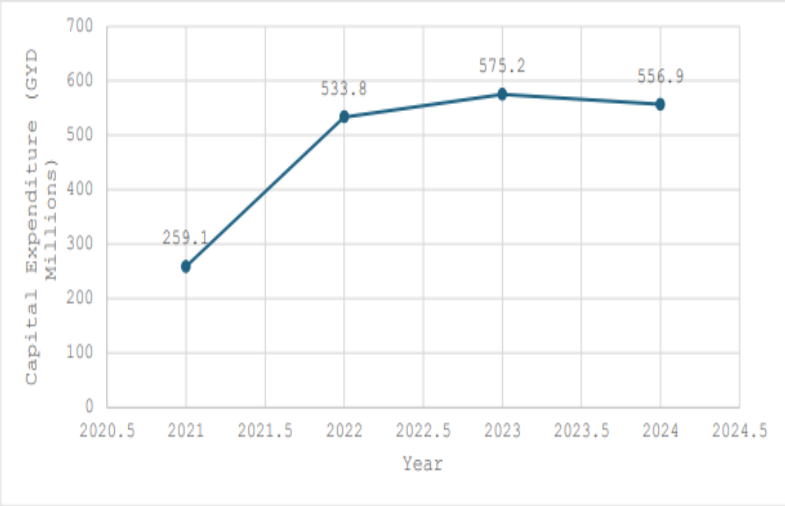

Figure 1. Region 5 Capital Expenditure on Education (2021–2024)

This figure illustrates the annual capital expenditure allocated to Region 5 (Mahaica-Berbice) for educational development from 2021 to 2024, based on data extracted from the Government of Guyana Budget Estimates (Volumes 2, 2021–2024). [1, 2, 22, 24]

Infrastructure and Access

From 2021-2024 as captured in 2024 Budget Estimates – Volume 2, various capital works were finalized or initiated in the Region 5 as part of the oil-financed rural educational infrastructure investments. Some of the highlights include, but are not limited to; the building of new classroom blocks at the Bush Lot and Mahaicony Secondary schools; improving sanitary facilities in rural schools in places such as Belladrum to Woodley Park and facilitating the expansion of dormitory spaces at the Mahaicony Secondary Complex. There was also some infrastructure support beyond the school compounds, such as bridge and feeder roads rehabilitation that improved physical access to the periphery. These actions greatly improved access and daily attendance at school, especially for those in riverine and agricultural areas, where seasonal flooding and poor transportation had previously interfered with the continuity of learning.[1, 2, 22, 24].

Figure 2 shows the variety of infrastructural improvements funded in schools through revenues from oil and gas and the reported impact on students' ability to access education obtained from the survey. The two-color system in the chart below identifies physical improvements (blue) and access-related outcomes (orange), according to the multiple responses of 260 participants.

Regarding infrastructure, the school feeding program was described the most, by 220 responders (84.6%). This was then followed by construction of ICT facilities and sanitation, which were cited by 150th respondents (57.7%). Meanwhile, investment in core academic infrastructure like libraries (15.4%) and labs (7.7%) was significantly lower. No new classrooms were constructed as indicated by any participant, pointing to a major gap between capital expansion and awareness at the school-level of any participants.

With respect to access outcomes, scholarship opportunities were the most commonly identified impact, cited by 200 (76.9%) respondents. However, differences were also found in other important access variables: dropout decline (23%), no access changes (23%), and travel access changes (3.8%). Notably, there are no subjects checked is "increased enrollment" which might suggest that while funding is being used there is not widespread experience or perception of the effects of this money on student participation.

Overall, the figure indicates a clear emphasis on support services and student well-being. But it also highlights a potential misfit between resource allocation and the structural demands of rural schools — most notably in terms of adding classroom space or improving transportation. The shockingly low awareness of actual reach improvements begs questions about transparency of outlays and the quality of information brought to bear between policymakers and school-based constituents.

It strengthens the call for better transparency, more participative approaches to planning and finances linked to results that can be used, most especially in rural areas where such development gaps are frequently even greater.

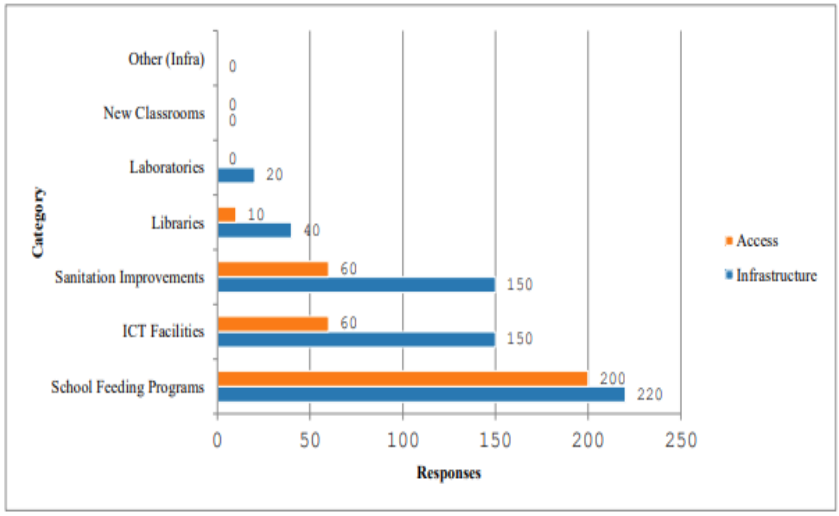

Figure 2. Field Data Infrastructure vs. Access Impacts of Oil and Gas Revenue

Learning Outcomes

Data from the Ministry of Education showed that despite the infrastructural improvements the performance reports at the academic level as recorded from the National Grade Six Level left much to be desired. From 2021-2023, the mean pass rate for English and Mathematics in Region 5 only increased by 3–4%, and many schools remained below the national average. This indicates that although there has been an improvement in the physical learning environment, pedagogical qualities are still an issue. This is captured in Figure 3, below. [23].

In addition, the teachers' responses from the survey, on perception of students' enrolment over the last three years were such that most of the respondents (35%) as seen in Figure 4, said that "No Change" (Rating 3) Status, this might indicate a perception of enrolment stability even when there are National investments in education on the strength of oil and gas revenue other level.

It is interesting to note that of the 25% respondents who felt that there was a marginal improvement (Rating 4) and the 20% who thought that there was a substantial improvement (Rating 5), nearly half (45%) felt that there has been some positive change as seen in Figure 3. During the same period 20% respondents said they felt a negative change (Ratings 1 and 2 together), suggesting limited progress in some rural communities (or that a more rigorous enrolment process is taking place in some socio-economic conditions in the programme's target areas).

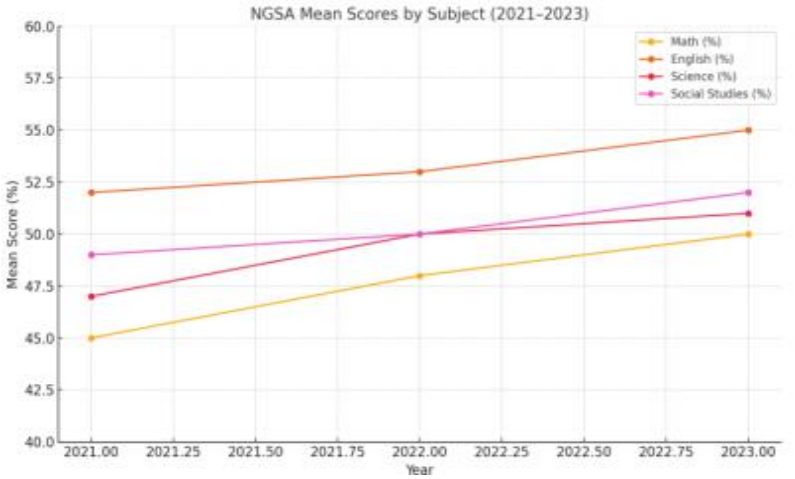

Figure 3. Average NGSA Pass Rates– Region 5 (2021–2023)

This chart illustrates marginal improvements in average pass rates at the National Grade Six Assessment (NGSA) in Region 5 over the three-year period. Despite infrastructure upgrades, academic outcomes remain below the national average, indicating persistent pedagogical challenges. [23]

The distribution indicates an overall level but varied perception of enrollment trends and suggests that additional examination of the visibility and regional equity of oil-funded interventions is warranted. These results underscore the value of breaking down education outcomes by region to ensure that rural investments are not just effective, but also visible to teachers in the field.

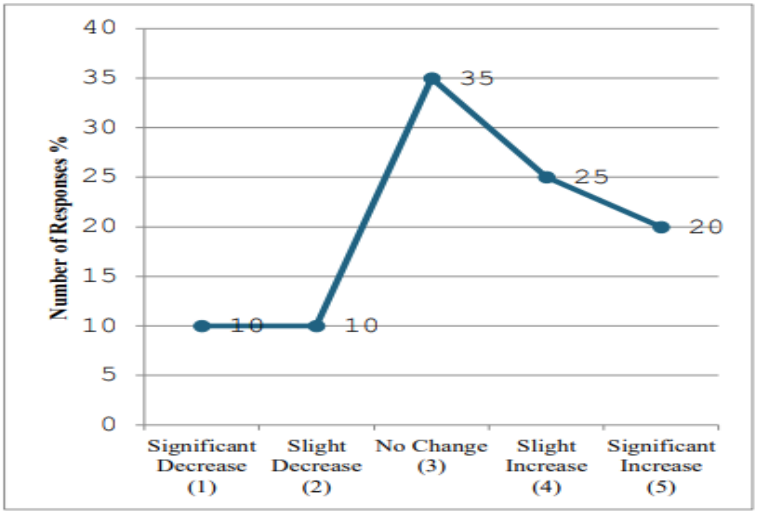

Figure 4. Field Data: Enrollment Change Rating: Line Graph Illustrates Teachers' Perceptions of Enrollment Trends

Perceived Changes in Quality of Education

The responses in below Figure 5 highlight the most commonly perceived areas of educational quality improvement resulting from oil and gas revenue allocations. The two most frequently cited changes were *better school infrastructure* (200 responses) and *higher student performance* (180 responses), suggesting that teachers associate physical upgrades with improved student outcomes. Additionally, *enhanced teaching materials* (160 responses) and *more student support programs* (80 responses) were recognized as critical contributors to this improvement.

However, areas such as *improved teacher training and professional development* (20) and *introduction of new technology* (25) received significantly fewer responses. This may indicate a disparity between investments in infrastructure and direct investments in teacher capacity-building and innovation, despite broader discourse on technology in education. Interestingly, 60 respondents still observed *no noticeable change*, highlighting that the impact of oil revenues may be unevenly distributed or slow to materialize across all rural schools.

Stakeholder Insights

71 percent of teachers surveyed said schools had undergone renovations or received utilities.

Just 32% knew that oil revenue is tied to the funding.

64% said they were uninformed or not included in decisions over the allocation of capital priorities.

58% of teachers said the general learning environment was either "much improved but still challenging."

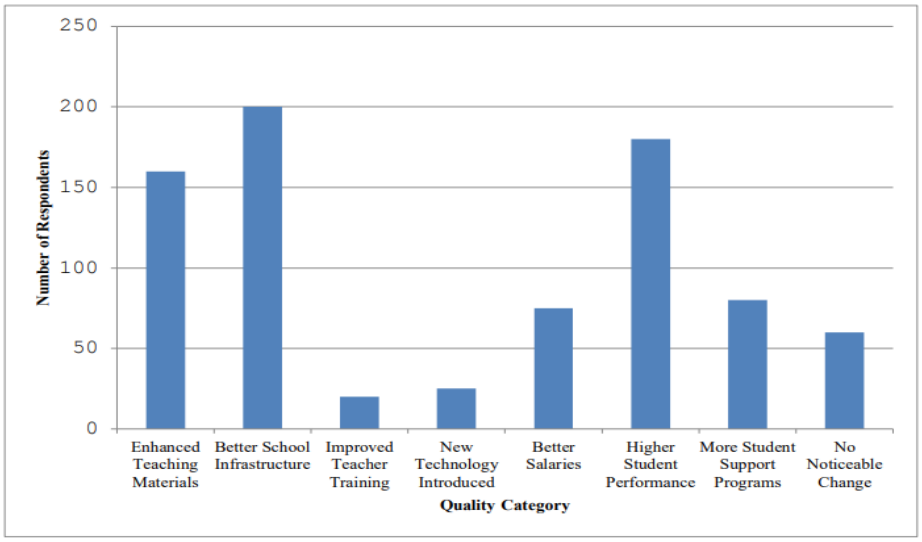

Figure 5. Field Data -Perceived Changes in Quality of Education Due to Oil and Gas Revenue

Discussion

The results of this study validate the fact that although oil related allocations are suggestive of the political will to enhance rural education, systemic governance deficiencies exert tremendous constraints over their transformative power in Region 5. These results are remarkably consistent with the global literature on the "resource curse" and the governance woes that are such a strong feature of resource-rich developing nations [8, 6].

Governance and Implementation Gaps

While Region No. 5 received an impressive allocation of just over GYD $1.9 billion for 2021 from an expected disbursement of resources until 2024, the sluggish implementation (contractor delays, project over-runs and poor technical oversight), illustrates the Rajkumar and Swaroop (2007) theory of the "low absorptive capacity" of subnational systems. This implementation deficit indicates a gulf between macro-level fiscal policy aspirations and micro-level delivery structures which is replicated in other oil-exporting countries such as Nigeria and Venezuela [25, 13].

This mismatch is also a manifestation of the "macro-micro schism" described in Mehlum, Moene, and Torvik (2006), where high public outlays do not result in significant improvements in human development because of weak institutions. For Guyana, the Good Governance Framework in general, and its dimensions of participation and accountability in particular, are not sufficiently operationalized at the regional level [11].

Equity and Visibility of Investments

The collected infrastructure and access data also indicate that, even where it was available, little of the money was made known to educators when it was spent on school improvements. Under a third of the teachers who were canvassed even realized that their school construction projects derived from oil money and more than 60 per cent said they had no participation in planning capital works. This opaqueness and absence of local voice is similar to the claim of Kolstad and Wiig (2009) that resource allocation opacity undermines citizen oversight and reduces developmental effectiveness [14].

Furthermore, the lack of report space in the core academic infrastructure, including the libraries and science laboratories, indicates a disconnect between the focus of investment and the pedagogical concerns. And although support services such as school feeding were welcomed, these alone may not lead to sustained learning gains.

Learning Outcomes vs. Physical Improvements

These marginal (3–4%) increases in NGSA English and Math pass rates from 2021 to 2023 indicate that the physical, infrastructure improvements have not yet contributed to significant, meaningful educational changes. This verifies Birdsall and Subramanian's (2004) warning that with the resource blessing can come a diminished sense of urgency for addressing the underlying drivers of learning – namely: teacher effectiveness, curriculum pertinence, and student support systems [10],

The disparity between investment and academic performance underlines the need for the vast sums of money to be joined by focused interventions in the means of teaching and of learning. Compared to the structural channel of re-investment (Mehlum et al., 2006) used in Norway, Guyana's current approach seems to be more through the infrastructure than instructional [11].

Stakeholder Perception and Local Ownership

The stakeholder results indicate that something more fundamental such as being disconnected from the planning and governance process is taking place. Teachers knew little about links between oil revenue and the budget (32%) and experienced a sense of disempowerment in the budget (64%). It is the absence of this nexus that devalues local ownership, local accountability, and local sustainability. As highlighted in the World Bank (2018) model, service equality in states with resources depends on civic and open planning and participation in budget formulation [15].

Synthesis and Implications

Overall, the results support the main argument in the literature that fiscal input is not enough. Without similar enhancements of governance, participation, and instructional quality, oil funded efforts will degenerate into monuments of investment with no substance. If Guyana is to transcend the resource curse, it must take up a more wholesome, indigenous-based, and learning oriented strategy toward educational development.

Conclusion

This study has analyzed the distribution and effects of oil-funded investment in education in Guyana's Region 5 (Mahaica-Berbice) for the period 2021–2024. The results show that despite significant financial investments made into improving school infrastructure and access, the inputs have not translated into commensurate improvements in learning outcomes or systemic equity. The similar patterns of growth evidenced reflect broader literature on the 'resource curse' where enhanced state fiscal capacity made possible by natural resources has not translated into transformative social outcomes because of weak institutions, fragmented governance, and limited community participation.

The research reveals that schools did benefit from infrastructure investments, including the building of new classrooms, dormitory expansions and sanitation improvements. Yet, there are still some crucial challenges: the majority of teachers still do not know the source of this money, pedagogic performance (proxied by NGSA performance) has not been great, and core academic infrastructure (e.g. laboratories, libraries) has been paid scarcely any attention. What is more, the limited extent of stakeholder involvement in project planning and implementation, despite relying on the ideals of Good Governance Framework in terms of transparency, local ownership and accountability, are disturbing.

In sum, the evidence suggests that, although oil-related revenues are large in absolute terms, they must be used through participative, pedagogically responsive and long-term strategies informed mechanisms of institutional capacity development. In their absence, however, capital spending may simply entrench

cosmetic advances without resolving the structural deficits that have contributed to rural education s disadvantage in Guyana. The paper concludes that there will be a need for strategic policy coherence, regional inclusivity and a meaningful involvement of stakeholders if the country is to transform resource wealth into sustainable educational transformation.

Recommendations

From the analysis of oil-financed education infrastructure investment in Region 5, the following recommendations are suggested for improving the efficiency, equity and long run impact of such intervention.

Strengthen Local Implementation Capacity

Regional education offices must be better resourced in terms of project management, monitoring procurement, and the provision of technical support to ensure that capital works are delivered on time, and with quality. This entails training of district engineers, education officers and contractors to help eliminate delays in implementation and standard low quality projects.

Align Investments with Pedagogical Outcomes

It is not enough for infrastructure simply to be stimulated; something must happen to support the teaching and learning cause. This needs to be complemented by teacher training, updating curricula to fit 21st century needs and the regular provision of teaching and ICT materials. Investment should mean something in terms of learning.

Enhance Stakeholder Participation and Transparency

The planning and budgeting process should be more open, more inclusive by incorporating school management committees, teachers, PTAs and community leaders in a structured manner to design and monitor capital works. This will allow for greater local ownership - better alignment with mates including local, and of course, enhanced accountability.

Entrench Equity Audits and Needs-Based Allocation

A structured equity audit process needs to be implemented to ensure that underserved or geographically isolated locations (i.e. riverine and Indigenous areas) are not exposed to social injustice in the resource distribution. Data-based, demand-driven budgeting has to become the norm and not the rarity.

Design Outcome Based Monitoring & Evaluation (M&E) System

Oil revenue-financed interventions must be accountable to ongoing, transparent review and reporting standards. Longer term allocations should also be informed by performance indicators including enrollment trends, student performance, teacher capacity and infrastructure usability. The effectiveness of the latter can be enhanced by incorporating results-based financing modalities, as advocated by the World Bank (2018).

Improve Communication About Funding Sources

Less than one-third of teachers surveyed were aware that oil revenues were funding improvements in their schools. The Ministry of Education and Ministry of Finance should launch targeted information campaigns to raise awareness of the NRF and its use in education, to foster trust and legitimacy in public spending.

Formulate a Long-Term National Education Infrastructure Strategy

An inclusive, publicly accessible education infrastructure strategic plan that will apply beyond Region 5 must be formulated so that all oil-funded education development projects, are coherent, equitable, sustainable and address to investment adequately.

Acknowledgement

This research was conducted as part of doctoral studies at Texila American University. The author acknowledges the guidance of academic supervisors and the cooperation of educators in region 5.

Conflict of Interest

The author declares no conflict of interest in the preparation or execution of this research.

References

[1]. Ministry of Finance, 2024, Budget Estimates 2024: Volume 1 – Current and Capital Revenue and Expenditure. *Government of Guyana*. Retrieved from . https://finance.gov.gy.

[2]. Ministry of Finance, 2024, Budget Estimates 2024: Volume 2 – Education Programme. *Government of Guyana.* Retrieved from . https://finance.gov.gy.

[3]. The World Bank, 2020, Project paper on a proposed additional credit in the amount of SDR 9.5 million (US$13.5 million equivalent) to the Co-operative Republic of Guyana for an additional financing to the Guyana Secondary Education Improvement Project (Report No. PAD3584). *Education Global Practice, Latin America and Caribbean Region*. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/324911608632404355/.

[4]. Auty, R. M. 1993, Sustaining development in mineral economies: The resource curse thesis 1st ed. *Routledg*e. Retrieved from https://doi.org/10.4324/9780203422595.

[5]. United Nations Development Programme, Evaluation Office, 2010, Assessment of development results: Evaluation of UNDP contribution, Guyana. *UNDP*.

[6]. Williams, P., 2025, Regional inequality and development: A study of the coastal–hinterland dichotomy in Guyana. In D. DaSilva-Glasgow, T. Khemraj, & D. Thomas Eds., Economic challenges in early 21st century Guyana pp. 67–111. *Palgrave Macmillan*. Retrieved from https://doi.org/10.1007/978-3-031-75019-9_4.

[7]. Rajkumar, A. S., & Swaroop, V., 2008, Public spending and outcomes: Does governance matter? *Journal of Development Economics*, 861, 96–111. Retrieved from https://doi.org/10.1016/j.jdeveco.2007.08.003.

[8]. Ross, M. L., 2012, The oil curse: How petroleum wealth shapes the development of nations. *Princeton University Press.* Retrieved from. https://cdn.carnegiecouncil.org/media/cceia/import/studio/The_Oil_Curse.pdf.

[9]. Sachs, J. D., & Warner, A. M., 1997. Natural resource abundance and economic growth NBER Working Paper No. 5398. *National Bureau of Economic Research.* Retrieved from: https://doi.org/10.3386/w5398.

[10]. Auty, R. M., 1993, Sustaining development in mineral economies: The resource curse thesis (1st ed.). *Routledge.* Retrieved from https://doi.org/10.4324/9780203422595.

[11]. Birdsall, N., & Subramanian, A., 2004, Saving Iraq from its oil. *Foreign Affairs*, 834, 77–89. Retrieved from https://www.foreignaffairs.com/articles/iraq/2004-07-01/saving-iraq-its-oil.

[12]. Mehlum, H., Moene, K., & Torvik, R., 2006, Institutions and the resource curse. *The Economic Journal*, 116508, 1–20. Retrieved from https://doi.org/10.1111/j.1468-0297.2006.01045.x.

[13]. Oduro, G. K. T., 2012, Unmasking policy actors' involvement in education policy making in Ghana. *Research in Comparative and International Education*, 71, 57–68. Retrieved from https://doi.org/10.2304/rcie.2012.7.1.57.

[14]. Suleman, M., & Ennin, R., 2024, Oil wealth and educational inequality in West Africa: Institutional failures in Ghana and Nigeria. *West African Journal of Development Studies*, 181 55–78. Retrieved from: https://learninggeneration.org/wp-content/uploads/2025/02/Prospects-of-Earmarking-Africas-Oil-and-Mineral-Revenues-for-Sustainable-School-Feeding-Programmes_compressed.pdf.

[15]. Kolstad, I., & Wiig, A., 2009, Is transparency the key to reducing corruption in resource-rich countries? *World Development*, 373, 521–532. Retrieved from https://doi.org/10.1016/j.worlddev.2008.07.002.

[16]. World Bank, 2018, World development report 2018: Learning to realize education's promise. *World Bank*. Retrieved from https://doi.org/10.1596/978-1-4648-1096-1.

[17]. Parliament of Guyana, 2021, Natural Resource Fund Act 2021 (Act No. 19 of 2021). https://parliament.gov.gy/documents/acts/24546-act_no_19_of_2021_-_natural_resource_fund_act_2021.pdf.

[18]. Ministry of Finance, 2023, Budget Estimates 2023: Volume 1 – Current and Capital Revenue and Expenditure. *Government of Guyana*. Retrieved from . https://finance.gov.gy.

[19]. Sachs, J. D., & Warner, A. M., 2001, The curse of natural resources. *European Economic* Review, 454–6, 827–838. . Retrieved from: https://doi.org/10.1016/S0014-29210100125-8.

[20]. World Bank, 2004, World Development Report 2004: Making services work for poor people. *Oxford University Press*. Retrieved from https://doi.org/10.1596/0-8213-5468-X.

[21]. Creswell, J. W., & Creswell, J. D., 2018, Research design: Qualitative, quantitative, and mixed methods approaches 5th ed. *SAGE Publications.* Retrieved from https://us.sagepub.com/en-us/nam/research-design/book255675.

[22]. Neuman, W. L., 2014, Social research methods: Qualitative and quantitative approaches 7th ed. Pearson.

[23]. Ministry of Finance, 2023, Budget Estimates 2023: Volume 2 – Education Programme. *Government of Guyana.* Retrieved from . https://finance.gov.gy.

[24]. Ministry of Education 2024, National Grade Six Assessment results 2024. Retrieved from https://education.gov.gy/en/index.php/media2/external-news/6500-national-grade-six-assessment-results-2024.

[25]. The Honourable Dr. Ashni, K., Singh, M. P., 2024, Mid-Year Report 2024. Ministry of Finance, *Co-operative Republic of Guyana.* Retrieved from https://finance.gov.gy/wp-content/uploads/2024/08/Mid-Year-Report-2024.pdf.

[26]. Oduro, I., 2012, Educational reforms and governance challenges in resource-rich African countries: The case of Nigeria. *Journal of African Educational Studies*, 92, 134–150. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2968893.