EVALUATION OF EDUCATIONAL INFRASTRUCTURE: IDENTIFYING GAPS IN PLANNING AND IMPLEMENTATION IN ELEMENTARY SCHOOLS

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Abstract

This article discusses the importance of educational infrastructure in the development of a nation and how it influences the quality of human resources and sustainable economic growth. There exists a significant gap in the planning and implementation of educational infrastructure, particularly in developing countries. Several faktors contribute to this gap, including a lack of needs analysis, changing policies, budget constraints, poor project management, and minimal stakeholder involvement. Additionally, inadequate infrastructure negatively impacts the learning process and student learning outcomes. Therefore, evaluating educational infrastructure is crucial for diagnosing existing gaps and making necessary improvements. The article also highlights the need for data-driven planning, transparency in budgeting, and active community participation in the planning and implementation of education to ensure that the constructed infrastructure effectively meets educational needs in a sustainable manner. The sources used to support these arguments include various studies by researchers in the fields of education and infrastructure management.
Keywords: Put 3-5 your key words here; keywords separated by semicolon

INTRODUCTION

Education is one of the main pillars of national development, playing a crucial role in improving the quality of human resources and fostering sustainable economic growth. However, investment in educational infrastructure—including the provision of school buildings, information technology facilities and equipment, laboratory facilities, and other supporting resources—has not kept pace with the growing demands for educational quality (Meitin & Dacholfany, 2025). The availability and quality of educational infrastructure significantly influence the effectiveness of the learning process and the learning outcomes achieved (A. N. Lestari & Veri, 2025). In many countries, particularly developing nations, there is a significant gap between the planning and implementation of educational infrastructure (Auliya & Anedin, 2024). Although policies and budgets are established for infrastructure development, in practice there are often shortcomings in terms of thorough planning and effective implementation strategies (Pambudi et al., 2023).

Several factors can contribute to these gaps in planning and implementation, including a lack of coordination among relevant agencies, limited community participation in decision-making, and neglect of regional and community-specific needs (Ginting et al., 2024). Poor-quality school buildings, limited access to facilities, and insufficient teaching aids and technology to support education result in low levels of understanding during the learning process (Putri, 2025). Therefore, evaluating educational infrastructure is crucial for identifying and analyzing gaps in planning and implementation (Subroto et al., 2023).

The explanation above emphasizes that education is a fundamental pillar in a nation's development, contributing to the improvement of human capital quality and sustainable economic growth. Although investment in educational infrastructure—including buildings,

technological facilities and equipment, and laboratory facilities—will contribute to improving educational quality, current realities on the ground reveal a mismatch between the investments made and the increasingly demanding standards of educational quality.

The availability and quality of educational infrastructure have been proven to significantly influence the effectiveness of the learning process and student learning outcomes. However, many countries, particularly developing nations, face gaps in the planning and implementation of educational infrastructure. Although policies and budget allocations exist, their implementation is often suboptimal, primarily due to a lack of comprehensive planning and effective implementation strategies.

Some factors contributing to these gaps include a lack of effective coordination among institutions, minimal community involvement in decision-making, and neglect of the specific needs of regions and communities. Inadequate school building quality, limited access to adequate facilities, and a shortage of teaching aids and technology also negatively impact students' comprehension during the learning process. Thus, evaluating educational infrastructure is vital for identifying and analyzing these gaps in planning and implementation. Only through in-depth evaluation can tangible and sustainable improvement measures be taken to enhance the overall quality of education..

RESULT AND DISCUSSION

Planning and Implementation of Educational Infrastructure

Educational infrastructure planning is a strategic process that involves identifying needs, setting goals, and designing appropriate, high-quality educational facilities (Sormin & Sirozi, 2024). The quality of an educational system depends heavily on a well-thought-out and strategic budgeting process (Purba, 2024). Educational infrastructure planning is a process designed to create, develop, and maintain the educational facilities necessary for the learning process to proceed effectively (Yusron, 2025).



Source: www.moneykompas.com

The graph shows the government's budget allocation for infrastructure development from 2015 to 2024, measured in trillions of rupiah. Overall, there is a trend of increasing infrastructure budgets year over year, although accompanied by some significant fluctuations. In the initial period (2015–2016), the budget remained relatively low, ranging from approximately Rp256.1 trillion to Rp269.1 trillion, before experiencing a sharp increase from 2017 to 2019, reaching Rp415 trillion. A drastic decline occurred in 2020 (Rp281.1 trillion), which can be attributed to budget reallocation due to the COVID-19 pandemic. Following this, the budget increased again from 2021 to 2024, even reaching a peak of Rp422.7 trillion in 2024.

In the context of evaluating educational infrastructure, particularly at Lopang Domba Public Elementary School, this graph indicates that, at the macro level, the government has committed a substantial budget to infrastructure development. However, this increase in the national budget does not necessarily correlate directly with the state of educational infrastructure at the elementary school level, especially in rural areas. The resulting gap may be caused by planning that is insufficiently grounded in the schools' actual needs, uneven budget distribution, and weak implementation and oversight at the local level. Therefore, although national budget allocations tend to increase, the infrastructure conditions at Lopang Domba State Elementary School still require a more in-depth evaluation to determine whether the budget truly addresses the school's needs or instead creates a gap between policy planning and on-the-ground implementation.

The current state of educational infrastructure faces various significant challenges and opportunities (Hasballah & Zulfatmi, 2024). The focus on the quality of educational infrastructure has intensified, particularly following the COVID-19 pandemic, which accelerated changes in teaching and learning methods and highlighted deficiencies in existing infrastructure. Key challenges in planning and implementing educational infrastructure include accessibility, facility quality, and the integration of technology (Nurhayati & Mulyanti, 2025). In remote and rural areas, accessibility remains a major challenge due to limited transportation and basic facilities such as electricity and sanitation, widening the gap between students who can access quality education and those who cannot (Fanani, 2025). This highlights the need for more comprehensive strategies to improve infrastructure in underdeveloped areas (S. Lestari et al., 2025).

Data-driven planning is crucial to ensuring that educational infrastructure development aligns with actual on-the-ground needs (Purba, 2024). A planning process that relies on accurate data and the participation of local stakeholders will enhance the relevance and effectiveness of infrastructure development initiatives (Firmansyah et al., 2025). Furthermore, adequate funding for educational infrastructure must be a priority for the government and policymakers. Without sufficient funding, infrastructure development will be hindered, resulting in an inability to meet urgent educational needs (Harahap & Junaidi, 2024). The availability of education funding often poses a major challenge for many regions. Many educational institutions face significant budget shortfalls, limiting their ability to meet the required educational standards (Hasanah et al., 2024).

Furthermore, educational budgeting planning must also consider factors such as government policies, regional priorities, and the needs of the local community (Nengsih et al., 2025). Without a systematic and data-driven approach, budget allocation can become ineffective and misaligned with actual priorities (Suban, 2025). This often results in inadequate facilities, a lack of teacher training, and unsustainable educational programs. The importance of educational budgeting extends beyond financial aspects and is closely linked to educational outcomes and human resource development (Harbes et al., 2024). With proper planning, improvements in educational quality are expected to reduce dropout rates.

The current education system faces complex challenges, but there are also opportunities for significant improvement. The COVID-19 pandemic has shifted the focus toward the quality of educational infrastructure, driven changes in teaching methods, and exposed existing shortcomings, such as accessibility, facility quality, and suboptimal technology integration. In remote and rural areas, accessibility challenges are becoming increasingly prominent due to transportation limitations and a lack of basic facilities, such as electricity and sanitation, which widen the gap of inequality between students who receive a decent education and those who do not.

In this context, the need for a comprehensive and holistic strategy to improve educational infrastructure in underdeveloped areas has become abundantly clear. Data-driven planning is considered crucial to ensure that educational infrastructure development aligns with actual on-the-ground needs. Accurate data and the participation of all stakeholders in the planning process will enhance the relevance and effectiveness of every development initiative. Furthermore, securing sufficient funding for the education sector must be a priority for the government and policymakers. Without adequate funding, educational infrastructure development will not only be hindered but will also exacerbate existing conditions, making it difficult for educational institutions to meet the required educational standards.

The availability of education funding, which is often a major challenge, can limit the ability of many institutions to improve the quality of educational services. Therefore, educational budgeting planning must consider government policies, regional priorities, and the needs of the local community to ensure that budget allocations are effective and truly aligned with the necessary priorities. Without a systematic and data-driven approach, such funding allocations will result in inadequate facilities, insufficient teacher training, and unsustainable educational programs. With proper planning, it is hoped that the quality of education will improve, which in turn can contribute to reducing dropout rates and fostering better human resource development.

From this overall perspective, building quality educational infrastructure heavily depends on a holistic approach that brings together various elements: from needs analysis and collaboration among stakeholders to adequate funding. Only through these steps can the future of education in Indonesia be improved, providing better access and quality education to all segments of society.

The Gap Between Planning and Implementation of Educational Infrastructure

This gap between planning and implementation is the most common problem; it can lead to inefficient use of resources and have a negative impact on the quality of education (Asih et al., 2025). The following are some factors that may contribute to this gap:

1. Lack of in-depth needs analysis
2. Changes in policy and priorities
3. Budget constraints
4. Inadequate project management.
5. Lack of stakeholder engagement.

There are various factors contributing to this gap. First, the lack of in-depth needs analysis is a major obstacle, resulting in a planning process that does not reflect the realities and needs on the ground. Additionally, frequent changes in policy and priorities can disrupt consistency in long-term planning. Budget constraints also pose a critical barrier, as without sufficient funding, it is difficult to effectively implement the educational plans that have been developed.

Inadequate infrastructure can hinder and reduce student motivation, resulting in the creation of an unproductive learning environment. Furthermore, parents, teachers, and the community

feel that their right to quality education is not being fulfilled (Amadi et al., 2023). Budget constraints allocated for educational infrastructure can also lead to the misuse of resources, preventing them from being used for educational purposes as intended (Aprilia et al., 2024). Furthermore, the inability to provide adequate infrastructure in remote areas can contribute to educational inequality, making it harder for students to access proper facilities (Azkiyah et al., 2025).

The gap between planning and implementation refers to the discrepancy between what is planned and the reality that unfolds during execution (Sholihah & Burhanuddin, 2025). Planning may describe adequate facilities, yet in reality, the facilities constructed fail to meet the required quality standards (Gumilang et al., 2025). Educational infrastructure projects are often delayed beyond the scheduled timeline and exceed the budget set during the planning phase (Suban, 2025). By understanding the causal factors and impacts of the resulting gaps, appropriate preventive measures can then be implemented (Abdillah et al., 2024). It is hoped that the quality of educational infrastructure can be improved, thereby creating a better impact on the learning process and the overall quality of education.

The gap between planning and implementation highlights that while plans for educational infrastructure improvements may be promising, on-the-ground realities often fall short, with constructed facilities failing to meet expected quality standards. Educational infrastructure projects are also prone to delays and cost overruns, resulting in an inability to meet planned educational objectives.

Therefore, it is crucial to understand the factors causing this gap and its impacts, and to implement effective preventive measures. With appropriate efforts to improve the quality of educational infrastructure, it is hoped that the educational environment can be enhanced, which in turn will benefit the overall learning process and improve the quality of education in the community. Through better management and efficient resource allocation, we can hope to create more ideal and equitable educational conditions for all students. Inadequate infrastructure can negatively impact student motivation and create a learning environment that is not conducive to learning. This also affects parents, teachers, and the community, who feel that their right to quality education is not being fulfilled. Budget constraints for educational infrastructure can lead to the misuse of resources and hinder access to education, particularly in remote areas, which contributes to educational inequality..

Solutions to Address the Gap

Creating a transparent budgeting system and making sustained investments in educational infrastructure will help ensure that resources are available to meet established plans (Suban, 2025). An effective educational infrastructure planning process must be grounded in actual needs (Soleha et al., 2025). It is important to conduct an in-depth needs analysis and involve all stakeholders in this process (Yasah et al., 2024). Utilizing data analytics and information technology in planning can provide further insights into educational needs (Barus et al., 2025). Furthermore, fostering active community participation at every stage of planning not only provides a more holistic perspective but also enhances a sense of ownership and support for the infrastructure development plans to be implemented (Marten et al., 2024).

Once the planning process is complete, implementation becomes a critical stage in ensuring that the plan is executed in accordance with the established guidelines (Farid, 2025). Effective management of educational infrastructure projects also involves proper risk management to address challenges that may arise during implementation (Miftahuldzanah & Hidayat, 2024). On the other hand, the human resources involved in the implementation of educational infrastructure must be provided with training and competency development that

is aligned with the project's needs. Furthermore, fostering effective communication among all parties involved in the implementation must be prioritized (Candira et al., 2025)
Following implementation, an evaluation must be conducted to assess how effectively the built educational infrastructure functions, and this can inform future improvements (Pally et al., 2024). Collecting feedback from students, teachers, and parents regarding the facilities that have been built can assist in the evaluation process and support continuous improvement in the implementation of educational infrastructure (Susanto et al., 2024). By consistently applying these principles, it is hoped that the educational infrastructure built will better and more meaningfully meet the needs of the learning process.
The importance of creating a transparent and sustainable framework for resource management. To ensure that educational infrastructure can meet the needs of effective learning processes, planning must be based on in-depth needs analysis, involve all stakeholders, and utilize information technology to gain better insights into educational needs.
Active community participation during the planning process not only provides a more comprehensive perspective but also enhances a sense of ownership and support for the infrastructure project to be implemented. Following planning, the implementation phase is also crucial, where effective project management, risk management, and the development of competencies among the human resources involved are essential to ensure the plan is executed successfully. Post-implementation evaluation is a vital step for assessing the effectiveness of the infrastructure that has been built. Gathering feedback from students, teachers, and parents regarding existing facilities can provide valuable information for continuous improvement. By consistently applying these principles, it is hoped that the educational infrastructure built will not only meet current needs but also have a positive impact on better and more meaningful learning for all parties involved..

CONCLUSION

The conclusion of this article indicates that although government budget allocations for educational infrastructure have increased significantly, the reality on the ground reveals gaps that hinder the effectiveness of implementation. The findings suggest that factors such as planning that does not focus on actual needs, uneven budget distribution, and a lack of oversight at the local level contribute to these issues. The inadequate infrastructure at Lopang Domba Public Elementary School serves as a concrete example of the mismatch between policy and on-the-ground practices, which impacts students' learning experiences as well as the overall quality of education.
The significance of this study lies in its relevance to fostering attention toward how educational infrastructure is planned and implemented. The need for a data-driven approach that involves stakeholders and ensures adequate funding is a key issue that policymakers must prioritize. These findings not only provide insights for stakeholders in education and infrastructure development but are also expected to serve as an important reference for future research in the field of education, particularly in the context of developing countries. Thus, several questions remain unanswered, including how effective new approaches are in increasing community participation in educational infrastructure planning, and how better resource management can address existing challenges. Further research in this area will be invaluable for developing more effective and sustainable strategies to improve the quality of education in the future.

REFERENCES

Abdillah, M. M., Ulum, M., & Judijanto, L. (2024). Strategi Efektif untuk Mengurangi Kesenjangan Pendidikan : Tinjauan Literatur pada Intervensi Global. *Jurnal Ilmiah*

Edukatif, *10*(02), 323–331. https://doi.org/10.37567/jie.v10i2.3422

Ade meitin, M. Ihsan Dacholfany, M. N. (2025). ANALISIS MANAJEMEN SARANA DAN PRASARANA DALAM MENINGKATKAN KUALITAS PEMBELAJARAN. *Jurnal Program Studi Administrasi Pendidikan*, *5*(7), 168–182.

Amadi, A. S. M., Hasan, S., Rifanto, N. A., Wldan, M., Afifah, N. Q., & Nisak, N. M. (2023). Upaya Pemerintah dalam Menjamin Hak Pendidikan untuk Seluruh Masyarakat di Indonesia : Sebuah Fakta yang Signifikan. *Jurnal Ilmu Pendidikan*, *18*(1), 161–171. https://doi.org/10.29408/edc.v18i1.14798

Aprilia, E., Afindi, A., & Saputra, H. (2024). Kasus Pendayagunaan Sumber Daya Pendidikan. *Jurnal Pendidikan, Bahasa Dan Budaya*, *3*(4), 112–124.

Asih, A. S., Huzaimah, S., & Nurfatimah, Y. (2025). *ANALISIS PERMASALAHAN PENDIDIKAN YANG TERJADI DI INDONESIA ANALYSIS OF EDUCATIONAL PROBLEMS THAT HAPPENED*. 1203–1213.

Auliya, G., & Anedin, R. (2024). *Implementasi Pendidikan Global Berbasis Keunggulan Lokal Dalam Pencapaian SDG Nomor 4 Di Provinsi Riau*. *6*(3), 340–350.

Azkiyah, S., Aryola, G., & Lukitoaji, B. D. (2025). Isu Kesenjangan Pendidikan di Daerah Terpencil : Solusi untuk Mewujudkan Pendidikan yang Merata. *Jurnal Seputar Isu Dan Inovasi Pendidikan*, *1*(1), 121–129.

Barus, R., Fardila, A., Zulaikha, S., & Takdir, M. (2025). Peran Teknologi Informasi dalam Pengambilan Keputusan Strategis di Lembaga Pendidikan : Kajian Sistematis. *Jurnal Pengabdian Masyarakat Dan Riset Pendidikan*, *3*(4), 5505–5517.

Candira, D., Warsah, I., Adisel, & Warlijasusi, J. (2025). Manajemen Pendidikan Terintegrasi untuk Mencapai Keberlanjutan dan Mutu Pendidikan Nasional. *DIRASAH*, *8*(1), 118–129.

Fanani, B. A. (2025). Kesenjangan Infrastruktur Pendidikan di Daerah Terpencil: Studi Kasus di SDN 4 Gombengsari Kalipuro. *Jurnal Ilmu Pendidikan Dan Sosial Humaniora*, *3*(September), 63–78.

Farid, M. (2025). Implementasi Manajemen Pembiayaan di Lembaga Pendidikan Islam. *Jurnal Ilmiah Ilmu Pendidikan*, *8*(23), 1190–1200.

Firmansyah, J., Rizqi, R. M., Wasqita, R., & Widiarta, I. M. (2025). *Akselerasi Pembangunan Inovasi Digital Melalui Government Hub Di Kabupaten Sumbawa*. *4*, 76–97.

Ginting, G., Kuswandi, A., & Budiati, A. (2024). *Partisipasi Masyarakat dalam Perencanaan Pembangunan Desa Kandui : Faktor Pengaruh dan Tantangan*. *6*(1), 112–129.

Gumilang, I., Prihana, E., & Syarkani, Y. (2025). GEDUNG-GEDUNG PEMERINTAH YANG DILAKSANAKAN. *Jurnal Tata Kelola Dan Kebijakan Publik*, *1*(1), 35–46.

Harahap, N. I. Y., & Junaidi. (2024). Problematika Manajemen Pembiayaan Pendidikan Di Indonesia. *Jurnal Manajemen Pendidikan Islam*, *2*(2), 133–149.

Harbes, B., Karim, H. A., Sesmiarni, Z., & Armedo, M. (2024). *PERENCANAAN PENDIDIKAN DAN MANAJEMEN PEMBIAYAAN (MEWUJUDKAN PENINGKATAN MUTU SECARA BERKELANJUTAN)*. *Avwontom 2016*.

Hasanah, N., Nur, M. A., & Rahmatillah, S. A. (2024). *Analisis Faktor Penghambat dan Upaya untuk Peningkatan Mutu Pendidikan di Sekolah Dasar Negeri*. *7*, 3162–3169.

Hasballah, T., & Zulfatmi. (2024). Implementasi Kurikulum Merdeka : Tantangan , Kebijakan , Dan Dampak Terhadap Pendidikan. *Jurnal Ilmiah Edukatif*, *10*, 312–322. https://doi.org/10.37567/jie.v10i2.3404

Lestari, A. N., & Veri, J. (2025). *Dampak Infrastruktur Jaringan terhadap Efektivitas Pembelajaran Jarak Jauh : Sebuah Tinjauan Literatur*. *5*(2020), 250–255.

Lestari, S., Susanto, A., & Wahib, M. (2025). *Revitalisasi Akses Transportasi : Strategi untuk Memperbaiki Pendapatan Komunitas Pedesaan di Indonesia*. *3*(3).

Marten, L., Martinah, & Nesen. (2024). Partisipasi Masyarakat Dalam Peningkatan Kualitas Pendidikan Di Sekolah Dasar. *National Conference of Christian Education and Theology*, *2*(2), 113–120.

Miftahuldzanah, W. N., & Hidayat, W. (2024). IMPLEMENTASI MANAJEMEN RISIKO DALAM PENINGKATAN EFEKTIVITAS PEMBELAJARAN DI SMKN 4 BANDUNG. *Al- Bahjah Journal of Islamic Education Management*, *02*(02), 93–104. https://doi.org/10.61553/ascent.v2i2.353

Nengsih, A. R., Islam, M. P., Tinggi, S., Tarbiyah, I., Ulum, D., Indonesia, K. R., & Author, C. (2025). *Perencanaan dan pengambilan keputusan dalam pendidikan*. *1*(2), 183–192.

Nurhayati, & Mulyanti, D. (2025). Strategi Manajemen Pendidikan di Era Digital : Optimalisasi. *Jurnal Pelita Nusantara*, *2*(4), 376–383. https://doi.org/10.59996/jurnalpelitanusantara.v2i4.698

Pally, F. J., Baharuddin, & Ba'ka, A. (2024). Pelaksanaan Monitoring dan Evaluasi Sarana Prasarana Sekolah Dasar Di DInas Pendidikan Kabupaten Nabire Tahun 2023. *Indonesian Journal Of Economy Studies*, *3*(2), 1–11.

Pambudi, A. S., Pemantauan, D., & Pembangunan, P. (2023). *Potret Temuan Implementasi Pembangunan Bidang Pendidikan : Studi Kasus Dana Transfer Khusus di Provinsi Jawa Barat A Portrait of the Findings of the Implementation of Development in the Education Sector : A Case Study of the Special Transfer Funds in West Java Province*. *XIX*(2), 193–212.

Purba, B. C. (2024). Perencanaan Strategis Sarana dan Prasarana Penunjang Proses Pendidikan. *Jurnal Ilmiah Mutiara Pendidikan*, *2*(3), 62–77.

Putri, S. T. W. (2025). *Pengaruh fasilitas sekolah terhadap kualitas pembelajaran di sekolah dasar*. *3*, 93–102.

Sholihah, N., & Burhanuddin, H. (2025). Model Konseptual Perencanaan Lingkungan Pendidikan Islam : Identifikasi Kesenjangan , Faktor Penghambat , dan Strategi. *Journal of Global Humanistic Studies*, *3*(3), 526–537.

Soleha, S., Syahira, N., Romadhan, R., Alvarishi, S., Redhi, & Andriesgo, J. (2025). *Strategi Pengelolaan Sarana dan Prasarana Sekolah dalam Meningkat Efektifitas Pembelajaran*. *5*(2), 377–387.

Sormin, A. R., & Sirozi, M. (2024). *Prinsip-Prinsip Perencanaan Pengembangan Sarana dan Prasarana Pendidikan Islam*. *4*, 472–477.

Suban, S. A. (2025). *Menyusun Program Kerja Pelaksanaan Anggaran Pendidikan*. *1*(2), 1–8. https://doi.org/10.24252/asma.v2i2.16915.5

Subroto, D. E., Supriandi, Wirawan, R., & Rukmana, A. Y. (2023). Implementasi Teknologi dalam Pembelajaran di Era Digital: Tantangan dan Peluang bagi Dunia Pendidikan di Indonesia. *Jurnal Pendidikan West Science*, *1*(07), 473–480. https://doi.org/10.58812/jpdws.v1i07.542

Susanto, T. T. D., Julia, A. N., & Salsabila, J. F. (2024). Literature Review : Tantangan dan Implementasi Total Quality Management (TQM) dalam Institusi Pendidikan. *Didaktika: Jurnal Kependidikan*, *13*(001), 1405–1418.

Yasah, A. D., Ajuj, S. S., Kusuma, L., Fardani, A., Ikaningtyas, M., & Anyar, G. (2024). Keterlibatan pemangku kepentingan dalam perencanaan dan pengembangan bisnis berkelanjutan. *JURNAL MEDIA AKADEMIK*, *2*(4), XX–XX.

Yusron, A. (2025). *Peningkatan Kualitas Pembelajaran melalui Optimalisasi Sarana dan Prasarana Pendidikan di RA As - Syarif*. *5*(4), 1469–1478.