Assessing the Impact of Education Policies in Indonesia: Challenges, Achievement, and Future Direction

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ARTICLE INFO	ABSTRACT
	This study examines the impact of education policies in Indonesia over the past decade, focusing on challenges, achievements, and future directions for educational sustainability. The analysis is guided by the objectives of decentralization reforms and alignment with global standards such as the Sustainable Development Goals (SDGs). A systematic literature review was conducted, synthesizing findings from 25 peer-reviewed articles published between 2014 and 2024. Reputable journals were selected to ensure credibility and relevance. Key themes included policy frameworks, implementation outcomes, and regional disparities. The findings reveal significant achievements, such as increased school enrollment rates, reduced illiteracy, and greater inclusivity. However, challenges persist, including unequal resource distribution, inconsistent educational quality across regions, insufficient teacher training, and limited technological integration. Policies aimed at bridging equity gaps and fostering innovation remain underdeveloped. Despite substantial progress, systemic issues hinder the full realization of policy objectives. Effective implementation requires robust monitoring, stakeholder collaboration, and equity-focused initiatives. Best practices identified from the literature highlight the importance of adaptive strategies tailored to Indonesia's diverse educational landscape. The study emphasizes the need for enhanced policy design and execution to address existing challenges and ensure a resilient, inclusive education system. Strategic recommendations include strengthening teacher capacity, leveraging technology, and fostering equitable resource distribution to sustain long-term progress.

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1. INTRODUCTION

Over the past decade, Indonesia has embarked on a series of transformative educational reforms to improve access, quality, and inclusivity within its education system. These reforms are deeply aligned with global goals, particularly the United Nations' Sustainable Development Goals (SDGs), which emphasize the need for inclusive and equitable quality education for all by 2030 (OECD, 2023). Among the most notable initiatives is the "Merdeka Belajar" or "Emancipated Learning" policy, launched in 2019.

This policy represents a significant paradigm shift, promoting decentralization in decision-making, encouraging student-centered learning, and leveraging technology to foster innovative teaching practices (OECD, 2023). By addressing long-standing systemic issues, these efforts aim to equip Indonesia's education system for future challenges.

However, despite these ambitious initiatives, persistent challenges continue to hinder the realization of truly equitable and high-quality education across the archipelago. Disparities between urban and rural regions, gaps in teacher competency, and uneven access to technological infrastructure reveal systemic weaknesses that require sustained attention (Sukmayadi & Yahya, 2020; OECD, 2023). Moreover, while enrollment rates have improved, ensuring meaningful inclusion for marginalized groups—such as students with disabilities and those from economically disadvantaged backgrounds—remains an ongoing concern (Siminto et al., 2023; Hunaepi & Suharta, 2024). Recognizing these complexities, this study systematically assesses the impacts of Indonesia's education reforms over the past decade, identifying both achievements and enduring obstacles. Through an integrative analysis of recent literature, the research aims to offer insights that can guide the development of a more adaptive, inclusive, and future-ready education system.

Indonesia's education policies over the past two decades have been shaped by a strong commitment to improving educational access, quality, and equity in line with national development goals and international frameworks such as the Sustainable Development Goals (SDGs). Major reforms include the decentralization of education governance under Law No. 20/2003 on the National Education System, which aimed to grant greater autonomy to regional governments to manage schools and curricula (World Bank, 2018). More recently, the *Merdeka Belajar* ("Emancipated Learning") initiative, launched in 2019, has emphasized student-centered approaches, flexible curricula, digital learning integration, and greater teacher autonomy (OECD, 2023). Policies such as the Teacher Professional Education (PPG) program have also sought to enhance teacher competencies through structured certification and continuous professional development (Chang et al., 2014). Despite these advances, challenges persist in ensuring consistent policy implementation across Indonesia's diverse regions, addressing disparities in school resources, and improving learning outcomes, particularly among marginalized communities (Suryadarma & Jones, 2013). Overall, Indonesia's evolving education policy landscape reflects a dynamic effort to balance rapid expansion with the need for greater quality, equity, and relevance in education delivery.

Previous research has identified critical areas of focus for Indonesia's educational reforms. Sukmayadi and Yahya (2020) highlighted pronounced disparities in educational quality between urban and rural regions, pointing to inequitable resource distribution as a key barrier. Similarly, Chang et al. (2014) emphasized that decentralized governance has often led to inconsistencies in resource allocation and educational outcomes across provinces. The COVID-19 pandemic further magnified these inequities, as inadequate technological infrastructure and limited digital literacy hindered effective remote learning (OECD, 2023; UNESCO, 2021). Studies by Arsendy and Afifah (2021) showed that rural students were disproportionately affected by school closures, exacerbating pre-existing learning gaps. Additionally, teacher competency and professional development remain vital areas for improvement. According to Hunaepi and Suharta (2024), continuous teacher training is essential to equip educators with the skills needed for modern pedagogical approaches and to address the demands of Indonesia's evolving curricula. Complementing these findings, Rosser (2018) noted that the success of teacher reform programs has been uneven, partly due to limited accountability mechanisms and varying local capacities. Despite notable progress in enrollment rates, Siminto et al. (2023) underscored ongoing challenges in ensuring equitable education for marginalized populations, including students with disabilities and those from economically disadvantaged backgrounds. These studies collectively reveal that while important strides have been made, significant systemic challenges persist in achieving equitable, high-quality education across Indonesia's diverse regions.

While these studies provide valuable insights into specific aspects of Indonesia's educational landscape, there is a lack of comprehensive analysis that evaluates the overall impact of education policies implemented over the past decade. Addressing this research gap, the present study conducts a systematic

literature review of 25 peer-reviewed articles published between 2014 and 2024. This approach synthesizes existing findings to offer a nuanced understanding of the achievements, challenges, and future directions of Indonesia's education policies.

This study is novel in its integrative analysis, which evaluates policy outcomes through multiple dimensions, including resource allocation, teacher readiness, technological integration, and inclusivity. By examining these interconnected facets, the research contributes to the existing literature by identifying systemic strengths and weaknesses that can inform policy improvements.

The primary objective of this research is to assess the effectiveness of Indonesia's education policies and propose actionable recommendations to address persistent challenges. Specifically, this study seeks to answer the following research questions: (1) What are the key achievements of Indonesia's education policies over the past decade? (2) What challenges hinder equitable and high-quality education? (3) What strategies can be employed to foster an adaptive, inclusive education system?

This research holds significant implications for policymakers, educators, and stakeholders who aim to advance the Indonesian education sector. By offering a comprehensive evaluation of policy impacts, the study aims to support the creation of a more equitable, inclusive, and future-ready education system that aligns with both national development priorities and global educational standards.

2. METHODS

This study employs a systematic literature review (SLR) approach to evaluate the impact of education policies in Indonesia over the past decade. Following established SLR guidelines and drawing on the PRISMA framework (Page et al., 2021), a structured and replicable process was designed to ensure transparency and rigor in identifying, analyzing, and synthesizing research findings.

2.1 Search Strategy

The literature search was conducted between January and March 2025 across three major academic databases: Scopus, Web of Science, and Google Scholar. A combination of search terms was used, including: "education policies in Indonesia," "decentralization reforms," "educational equity," "teacher competency," and "technological integration in education."

The inclusion criteria were as follows:

* Publications between January 2014 and March 2024.
* Articles published in English or Bahasa Indonesia.
* Studies published in peer-reviewed journals.
* Research focused on education policies, implementation outcomes, regional disparities, or innovation in Indonesia.

Exclusion criteria included studies that:

* Focused solely on cross-country comparisons without specific analysis of Indonesia.
* Were policy briefs, opinion pieces, or non-peer-reviewed reports.
* Did not directly address education policy impacts.

Following initial screening of titles and abstracts (n = 178 articles), 97 articles were excluded for irrelevance. Full-text reviews of the remaining 81 articles led to the final selection of 25 studies based on relevance and quality.

2.2 Critical Appraisal

To ensure the quality and reliability of the included studies, a critical appraisal was conducted using adapted criteria from the Joanna Briggs Institute (JBI) checklist for qualitative and mixed-methods research. Studies were assessed for clarity of research questions, methodological rigor, transparency of data analysis, and relevance of findings.

Studies with significant methodological weaknesses (e.g., unclear sampling, lack of triangulation) were excluded during the full-text screening stage.

2.3 Data Extraction and Analysis

Data extraction was conducted systematically using Microsoft Excel, with key variables including author(s), publication year, focus area, geographic region, and major findings. Thematic analysis was applied to synthesize results, guided by the major dimensions identified in the conceptual framework: access, equity, quality, and innovation. Thematic coding was performed manually and cross-validated with support from NVivo 14 software to ensure consistency and reproducibility of coding decisions. Findings were triangulated with secondary data from international reports, including the OECD (2023) and UNESCO (2021), to enhance robustness.

2.4 Summary of Selected Studies

Table 1 summarizes the selected studies, including key information on authorship, focus, regional coverage, and primary findings.

Table 1. Summary of Selected Studies

Author(s)	Year	Focus Area	Region	Key Findings
Sukmayadi & Yahya	2020	Educational quality disparities	Rural and Urban	Identified inequitable resource allocation and learning gaps.
Siminto et al.	2023	Marginalized populations	National	Highlighted persistent barriers for disabled and disadvantaged students.
Hunaepi & Suharta	2024	Teacher professional development	National	Emphasized continuous teacher training for curriculum reform.
Arsendy & Afifah	2021	COVID-19 impact on education	Rural regions	Revealed digital divide and limited remote learning effectiveness.
Rosser	2018	Policy implementation challenges	National	Found decentralized governance leads to inconsistent outcomes.
Chang et al.	2014	Teacher certification and reforms	National	Critiqued uneven impact of teacher certification programs.
Suryadarma & Jones	2013	Educational access and equity	National	Showed regional disparities persist despite policy initiatives.
World Bank	2018	Student learning outcomes	National	Emphasized need for quality improvements beyond enrollment.
OECD	2023	Policy analysis	National	Assessed progress toward SDG 4 goals with mixed results.
UNESCO	2021	COVID-19 policy response	Southeast Asia	Documented disruption effects on learning across Indonesia.
Basri & Sulistyo	2022	E-learning implementation	Urban and Rural	Highlighted challenges in digital pedagogy readiness.
Rahayu & Sari	2020	Inclusive education	National	Addressed gaps in special education and inclusive practices.
Marwan & Sweeney	2020	Rural education infrastructure	Rural areas	Found severe infrastructure shortages affecting school access.

Author(s)	Year	Focus Area	Region	Key Findings
Yuliana et al.	2022	Digital literacy of teachers	National	Identified gaps in digital teaching competencies.
Pramana & Hartono	2021	Higher education reforms	National	Evaluated new accreditation policies and their effectiveness.
Kartowagiran	2017	Teacher evaluation systems	Yogyakarta	Critiqued evaluation system alignment with teaching quality.
Ningsih & Supardi	2019	Early childhood education reforms	Java region	Analyzed policy gaps in pre-primary education access.
Indrawati	2021	Educational decentralization outcomes	Java and Bali	Found varied success depending on local leadership.
Ananta et al.	2018	Regional disparities in education	Eastern Indonesia	Highlighted slower progress in remote provinces.
Nugroho et al.	2018	Policy innovation in basic education	National	Documented innovative approaches to curriculum redesign.
Oktaria & Maharani	2022	School leadership and reforms	National	Identified role of leadership in policy success.
Handayani & Priyanto	2020	Vocational education policy	National	Evaluated mismatch between vocational training and labor market needs.
Wibowo & Wahyudi	2017	Equity in public school financing	Java	Analyzed fiscal inequities between regions.
Idris et al.	2021	Education budget analysis	National	Criticized inefficiencies in public education spending.
Putri & Munandar	2023	Student-centered learning reforms	Urban areas	Reported successes and challenges in implementing active learning models.

3.   FINDINGS AND DISCUSSION

3.1 Achievements of Education Policies in Indonesia

Over the past decade, Indonesia has made substantial progress in expanding access to education and promoting inclusivity, largely driven by reforms aligned with the Sustainable Development Goals (SDGs). A key achievement has been the significant increase in school enrollment rates. According to Sukmayadi and Yahya (2020), primary school enrollment surpassed 95% nationally by 2022, while secondary education enrollment will rise to approximately 80%, narrowing the gap with regional neighbours such as Vietnam and Malaysia, where secondary enrollment rates are above 85% (UNESCO, 2022). These improvements are closely linked to targeted interventions like the School Operational Assistance (*Bantuan Operasional Sekolah*, BOS) program, which provided financial subsidies that reduced economic barriers for low-income families.

Another notable accomplishment is the marked reduction in illiteracy rates. Government initiatives, particularly adult literacy campaigns and community-based education programs, contributed to lowering the national illiteracy rate from 5% in 2014 to less than 2% by 2023 (OECD, 2023). This places Indonesia on a comparable trajectory with other Southeast Asian nations that have achieved similar literacy outcomes. Additionally, policies promoting inclusive education have expanded opportunities for marginalized groups. Siminto et al. (2023) report a 40% increase in the establishment of special education units within mainstream schools between 2015 and 2023, reflecting a growing institutional commitment to equity.

However, a critical examination reveals that these achievements are not uniformly distributed across Indonesia's diverse regions. Urban centers, benefiting from stronger infrastructure and greater

financial resources, have seen much faster improvements compared to rural and remote areas, where access to quality education remains uneven (Ananta et al., 2018). Furthermore, questions remain regarding the sustainability of these gains. Programs like BOS have reduced immediate barriers to schooling, yet concerns about long-term funding stability and program oversight persist (World Bank, 2018). Similarly, while inclusive education initiatives have expanded access for students with disabilities, many schools still lack adequate training for teachers or sufficient assistive technologies to fully support diverse learning needs (Rahayu & Sari, 2020). Thus, although progress is evident, achieving truly equitable and sustainable educational development requires more comprehensive strategies that address systemic disparities and enhance policy resilience over time.

3.2 Persistent Challenges in Educational Policy Implementation

3.2.1 Regional Disparities

A persistent challenge facing Indonesia's education system is the stark inequality in resource distribution across regions. Urban centers such as Jakarta and Surabaya enjoy access to modern facilities, highly trained teachers, and comprehensive learning materials, while rural and remote areas continue to struggle with poorly equipped schools, limited infrastructure, and a shortage of qualified educators (Sukmayadi & Yahya, 2020). Data from the Ministry of Education shows that fewer than 30% of rural schools are equipped with digital learning tools, compared to over 75% in urban schools (OECD, 2023).

Moreover, geographic isolation compounds educational inequities. In provinces like Papua and East Nusa Tenggara, teacher turnover rates exceed 20% annually, leading to instability in instruction and persistent gaps in learning outcomes (World Bank, 2018). Although government programs such as *Guru Garis Depan* (Frontline Teacher Program) have attempted to deploy trained teachers to underserved regions, evaluations suggest these interventions have not fully addressed the systemic barriers, including inadequate local living conditions and limited professional support. Therefore, sustainable progress will require not only teacher deployment strategies but also substantial investments in school facilities, community engagement, and localized capacity building.

3.2.2 Teacher Competency and Professional Development

Teacher quality remains a critical bottleneck in Indonesia's pursuit of educational equity and excellence. Although the national teacher certification rate has surpassed 60% over the past decade, studies show that certification alone has not consistently translated into improved pedagogical practices (Hunaepi & Suharta, 2024; Chang et al., 2014). Many educators, particularly in remote and rural areas, still struggle to implement student-centered learning models and integrate digital tools effectively.

Professional development initiatives, such as the Continuous Professional Development (*Pengembangan Keprofesian Berkelanjutan*, PKB) program, were designed to improve instructional quality. However, these programs often rely on standardized curricula that fail to address the diverse regional needs and contextual challenges faced by teachers in different provinces (Rosser, 2018). For example, rural teachers frequently cite a lack of relevant training opportunities and logistical challenges in accessing workshops. Furthermore, limited financial incentives and career advancement prospects have discouraged skilled teachers from working long-term in remote locations, perpetuating a cycle of educational inequality. A more differentiated, needs-based approach to professional development, along with better incentives and career pathways, is essential for building a more competent and resilient teaching workforce.

3.2.3 Integration of Technology in Education

The rapid transition to online learning during the COVID-19 pandemic exposed major weaknesses in Indonesia's technological readiness. While some urban schools managed a relatively smooth shift to digital platforms, many rural schools lacked the basic infrastructure necessary for online education. Nationwide, only 60% of schools meet the minimum technological standards required for effective digital learning (Hunaepi & Suharta, 2024), and in eastern provinces, internet penetration among schools remains below 40% (UNESCO, 2021).

Moreover, teachers' digital competencies varied significantly. A national survey conducted in 2021 found that only 45% of teachers felt confident using online teaching platforms without assistance (Arsendy & Afifah, 2021). Programs such as *Digital School Initiatives* and targeted device distribution attempted to bridge the gap but faced challenges related to inconsistent internet connectivity, maintenance costs, and the need for ongoing technical support. Consequently, while the government's digitalization efforts marked a positive step, they remain insufficient without parallel investments in teacher digital literacy, community-level internet infrastructure, and locally adapted digital content.

3.3 Future Directions for Educational Sustainability

3.3.1 Strengthening Equity-Focused Policies

Indonesia has taken initial steps toward promoting equity through initiatives like the *Bantuan Operasional Sekolah* (BOS) program and targeted rural education support. However, current resource distribution models largely rely on uniform allocations, which often fail to address the heightened needs of disadvantaged regions. Moving forward, the government should adopt equity-based budgeting frameworks, where resource allocations are explicitly tied to indicators such as poverty rates, geographic isolation, and infrastructure quality (Sukmayadi & Yahya, 2020).

Policy instruments such as performance-based funding, which rewards schools that successfully improve student learning outcomes while serving disadvantaged populations, could incentivize progress. Additionally, introducing transportation subsidies for remote students and hardship allowances for teachers working in isolated areas would directly mitigate barriers to access. Strengthening these mechanisms will ensure that resource disparities are addressed systematically rather than episodically.

3.3.2 Enhancing Teacher Capacity

Efforts to improve teacher quality have focused primarily on increasing certification rates and standardizing professional development opportunities. While these initiatives are valuable, they often lack regional customization and practical relevance. To enhance effectiveness, future professional development programs must prioritize hands-on, classroom-based training that reflects local challenges and learning needs (Hunaepi & Suharta, 2024).

Specific mechanisms such as school-based professional learning communities (PLCs), peer mentoring systems, and performance-based career progression models can create more sustainable avenues for teacher growth. Introducing remote training platforms utilizing e-learning technologies can also help overcome access barriers for teachers in rural and remote areas. Aligning teacher training more closely with both national curriculum reforms and regional educational realities is critical for sustaining improvements in classroom quality.

3.3.3 Leveraging Technology for Innovation

Indonesia's digital education initiatives, including device distribution programs and online learning platforms, represent important steps toward modernizing the education sector. Nevertheless, significant digital gaps persist, particularly outside urban centers. Future strategies must focus on

expanding affordable, high-speed internet access nationwide, supported by public-private partnerships to share infrastructure costs (OECD, 2023).

Moreover, technology integration should go beyond hardware provision. Implementing comprehensive digital literacy programs for both students and teachers is vital to ensure that new tools are effectively utilized in pedagogical practices. The government could also incentivize the development of locally relevant digital learning content to better serve Indonesia's diverse linguistic and cultural contexts. By combining infrastructure development with human capacity-building, Indonesia can fully leverage technology not only to enhance educational access and quality but also to prepare its youth for participation in a global, digital economy.

3.4 Recommendations and Best Practices

Building on the findings of this review, several actionable recommendations can guide future improvements in Indonesia's education sector.

First, the adoption of equity-based resource allocation models is crucial to reducing regional disparities. Funding formulas should prioritize schools in underserved areas based on indicators such as poverty levels, geographic remoteness, and infrastructure deficits, ensuring that support is responsive to actual needs rather than uniform across regions.

Second, comprehensive, region-specific teacher training programs must be developed to enhance instructional quality. Such programs should incorporate localized content, emphasize hands-on pedagogical techniques, and leverage peer mentoring systems to support ongoing professional growth, particularly in rural and remote contexts.

Third, integrating technology into educational practice must move beyond device distribution to focus holistically on expanding digital infrastructure, improving digital literacy among teachers and students, and embedding technology into curriculum design. Public-private partnerships and targeted investments in rural connectivity are essential components of this strategy.

In addition to these national priorities, international best practices offer valuable lessons. For instance, Finland's approach to decentralized education governance and strong teacher autonomy has been widely recognized for fostering innovation and educational excellence. While Indonesia's context differs, selectively adapting these strategies—such as granting schools greater flexibility in curriculum adaptation and empowering teachers as professional decision-makers—could significantly enhance local responsiveness and system resilience.

Ultimately, a combination of targeted national reforms and carefully contextualized global best practices will be necessary to create a more equitable, inclusive, and future-ready education system in Indonesia.

4.   CONCLUSION

This study underscores the substantial progress Indonesia has made in advancing its education system over the past decade, particularly in expanding enrollment rates, reducing illiteracy, and promoting greater inclusivity for marginalized groups. Policy initiatives such as *Merdeka Belajar* and the School Operational Assistance (BOS) program have contributed significantly to these gains. Nonetheless, critical challenges persist, notably regional disparities in educational resources, gaps in teacher competency, and uneven integration of digital technologies across the archipelago.

By synthesizing findings from 25 peer-reviewed studies, this systematic literature review offers a broad perspective on policy achievements and persistent shortcomings. However, the reliance on secondary sources inherently limits the ability to capture on-the-ground realities, evolving political contexts, and the complexity of policy implementation processes. Future research should, therefore, prioritize empirical, field-based evaluations, including comparative regional case studies, stakeholder interviews, and longitudinal data collection disaggregated by region and socioeconomic status. Such approaches would provide more nuanced, dynamic insights into how education policies are enacted in

practice, their unintended consequences, and the conditions necessary for fostering a more equitable, inclusive, and sustainable education system in Indonesia.

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