

The Role of Educational Planning in SDG Implementation

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Abstract

This study examines the strategic role of educational planning in supporting the implementation of the Sustainable Development Goals (SDGs), particularly SDG 4 on quality education. Using a literature review approach, it synthesizes findings from recent international and national studies over the past five years, focusing on the relationship between education policy, sustainable development governance, and data-driven, participatory planning. The analysis indicates that educational planning functions not only as an administrative mechanism but also as a transformative instrument that directs policies, resources, and programs toward achieving the SDGs. In Indonesia, implementation has been incorporated into the National Medium-Term Development Plan (RPJMN) and regional development strategies. However, its effectiveness remains influenced by regional disparities, institutional capacity, and limited human resources. The findings highlight that successful educational planning relies on systematic, inclusive, and cross-sectoral approaches that integrate education with health, employment, and technology sectors to support sustainable development.

Keywords: Education planning; SDG 4; sustainable development; education policy; governance

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INTRODUCTION

Sustainable development, or Sustainable Development Goals (SDGs), is a global agenda agreed upon by 193 countries at the 2015 UN General Assembly. This agenda represents a shared commitment to achieving human well-being without sacrificing the sustainability of future generations. In this context, education is a strategic sector that plays a key role because it can shape awareness, skills, and values of sustainability from an early age. Empirical support from the latest international literature shows several key findings. First, quality education (SDG 4) and ESD programs effectively increase pro-environmental knowledge, skills, attitudes, and behaviors, thereby contributing to cross-SDG targets (e.g., health, climate, and equality) (Saini et al., 2022). Second, systematic and bibliometric studies show that integrating ESD into the curriculum and building teacher capacity at the school and university levels strengthens the capacity of educational institutions to become motors of social transformation towards the SDGs (Chien & Knoble, 2024; Tafese & Kopp, 2025). Third, more recent scoping and review studies emphasize the need for cross-disciplinary approaches, transformational learning, and the establishment of “living labs” or community-based practices to bridge theoretical knowledge and concrete actions for achieving the SDGs (Hu & Mou, 2025; Xuan & Lindqvist, 2025).

Indonesia, as a signatory to the SDGs, is committed to implementing 17 sustainable development goals, encompassing social, economic, and environmental aspects. One of the main goals is "Quality Education" (Goal 4), which emphasizes equitable access, improved quality, and the development of education relevant to 21st-century needs. Therefore, the successful implementation of the SDGs depends heavily on the quality of education planning at the national and regional levels.

Research shows that Indonesia faces structural challenges in achieving SDG 4, such as disparities in access and quality across regions and socioeconomic groups (Magfiroh & Nugraheni, 2024). A study by Yanuarto et al. (2024) explored how learning processes, content, and outcomes in Indonesian higher education relate to SDG 4 implementation and found that the quality of processes and curricula still requires strengthening to produce outcomes consistent with quality education. Therefore, thorough educational planning at the national and regional levels, including resource allocation, strategies for improving teacher quality and infrastructure, and adapting to 21st-century needs, is key to maximizing education's contribution to achieving the SDGs (Ramadhan, 2023).

Furthermore, several studies have shown that national programs in Indonesia aimed at equalizing access, such as scholarships, distance learning, and digital learning, have played a role in increasing access to education. However, the sustainability of education quality and relevance to the job market and the development of 21st-century competencies remain inconsistent (Luthfi et al., 2023). Therefore, regional education planning must be inclusive, results-oriented, and integrated with the economic and labor sectors so that education not only provides access but also produces graduates who are ready to face global challenges.

Specifically, bibliometric research in the ASEAN region shows that research on basic education supporting SDG 4 has increased significantly between 2014-2024, but highlights that many of these studies are still limited to literacy and numeracy, and lack aspects of 21st-century competencies and relevance to local development needs. (Irawan et al., 2024). This indicates that education planning in Indonesia needs to adopt a broad competency perspective (soft skills, digital skills, entrepreneurial mindset) which is indeed a 21st century need, so that education is truly relevant and has an impact on achieving the SDGs.

Furthermore, research by Hasibuan (2025) underlines that Indonesia's commitment to SDG 4 is reflected in national policies, but implementation evaluations show that education quality remains weak. For example, international scores such as PISA show that Indonesia is still far from the global average, indicating that education planning must strengthen quality interventions (teachers, curriculum, learning environment) and reduce disparities between regions. Thus, education planning is not only about budget allocation and access, but also how the education system is monitored, evaluated, and given feedback systematically to achieve the expected results within the SDGs framework.

With a synergy between access, quality, and relevance planned at the national and regional levels, education in Indonesia has the potential to support the achievement of SDG 4 while contributing to other SDG goals (e.g., poverty reduction, health, and decent work). Therefore, data-driven, inclusive, locally adaptive, and results-oriented education planning is a strategic foundation for realizing quality education that supports the SDGs in Indonesia.

Education planning plays a crucial role in ensuring that every policy, program, and resource is directed toward supporting the achievement of the SDGs. Through a systematic, participatory, and data-driven planning process, governments can identify education priorities that address the challenges of inequality, teacher quality, and affordability of education services across regions. For example, research by the International Institute for Educational Planning (IIEP–UNESCO) states that the systematic use of learning assessment data helps policymakers prioritize, measure

progress, and focus budgets and interventions effectively a process that is crucial for formulating effective education plans to achieve SDG 4 (IIEP–UNESCO, 2023).

Furthermore, a study in Saudi Arabia showed that a “data-driven participatory governance & planning” approach enabled stakeholders (teachers, parents, communities) to participate in designing online/hybrid education plans adaptively to pandemic conditions, demonstrating that participatory and data-driven planning can increase the relevance and inclusiveness of education services (Alswedani et al., 2022).

In addition, global studies on curriculum integration and institutional strategies show that educational institutions that use data and participatory processes explicitly (e.g., through shared reflection and data workshops) have a greater chance of aligning their programs with the SDGs agenda. For example, the review “Exploring Sustainable Development Goals and Curriculum Adoption” (2025) shows that institutions that incorporate participatory mechanisms and data monitoring are more active in the transformation towards the SDGs (Xuan & Lindqvist, 2025).

In the Indonesian context, it was also found that school leadership that systematically implements data-based planning and local cultural values has improved the quality of education and better accessibility of services between regions. For example, the study “Strategic Principal Leadership in Data-Driven and Value-Based School Planning” by Nurbani et al. (2025) shows that school principals who involve teachers, school committees, and utilize educational report card data as a basis for planning, can prioritize improvements to teachers and facilities/infrastructure in a more targeted manner.

Therefore, it can be said that educational planning is not just about creating a vision and budget, but also includes identifying problems through data, involving various stakeholders (government, schools, and communities), and monitoring and evaluation so that the plan is adaptive to inequality, teacher quality, and access to services in various regions. Obstacles that often arise are limited data analysis capacity, digital infrastructure, and the consistent implementation of participatory mechanisms, as demonstrated by a study by Rohmah et al. (2025) which found major obstacles in infrastructure and data literacy in educational institutions.

Thus, systematic, participatory, and data-based educational planning becomes a strategic foundation for achieving SDGs in the education sector, helping to ensure that educational interventions are not only general but also targeted, equitable, and sustainable.

METHODS

The research method used in the journal “The Role of Educational Planning in SDG Implementation” is a literature review. This method was chosen because the research objective is to examine in depth various theories, concepts, and previous research results relevant to the role of educational planning in supporting the implementation of the Sustainable Development Goals (SDGs), particularly the fourth goal, Quality Education (SDG 4). The literature review approach allows researchers to identify the relationship between educational planning concepts, sustainable development policies, and implementation practices in various national and global contexts. The data sources analyzed include scientific books, international journal articles, UNESCO policy documents, and Indonesian government publications published within the last five years.

In its implementation, the review process was carried out through several stages, namely a literature search using keywords such as educational planning, SDGs implementation, education policy, and sustainable development, followed by a selection of sources that met the criteria of relevance and novelty. Each selected literature was analyzed thematically to identify patterns, research gaps, and the contribution of educational planning to the achievement of SDG 4. The synthesis of the results from these various sources was then used to build a conceptual framework that explains how systematic, participatory, and data-driven educational planning can strengthen the effectiveness of education policies in the context of sustainable development. Thus, this

literature review method provides a strong scientific basis for the formulation of policy recommendations and directions for further research.

FINDING AND DISCUSSIONS

The book "Educational Planning and the Role of Education in Achieving the SDGs" explains that educational planning serves not only as an administrative tool but also as an instrument of social transformation. With a social demand and manpower planning approach, educational planning is expected to align community needs with workforce demand, supporting sustainable development.

Sustainable development demands a paradigm shift in the education system, focusing not only on academic achievement but also on developing competencies and character that support sustainability. In this context, educational planning is key, serving as a strategic tool for directing educational policies, resources, and programs toward achieving the Sustainable Development Goals (SDGs), particularly SDG 4 on quality education (UNESCO, 2023). Good planning ensures that education produces individuals who are knowledgeable, ethical, and socially aware of environmental and humanitarian issues.

Within the framework of SDG implementation, education plays three key roles: building competent human resources, instilling sustainable values, and strengthening inclusive development governance. First, research by the International Labour Organization and its partners shows that vocational and adult education strategically enhance 21st-century skills such as digital literacy, entrepreneurship, and problem-solving, which directly support human resource competencies for sustainable development. Second, a scoping review examining the integration of SDG-related curricula shows that if educational institutions incorporate sustainability values (e.g., climate justice, gender equality, social responsibility) into learning and institutional transformation, education becomes an agent of social values that promotes sustainable lifestyles (Xuan & Lindqvist, 2025). Third, research on inclusive education and governance shows that learning systems accompanied by accountability mechanisms, community participation, and transparent management strengthen the inclusiveness aspect in development, for example, a systematic study that proposed the IPOF (input-process-outcome-feedback) framework in inclusive education as part of SDG4 and governance that is responsive to the needs of diverse learners (Yang et al., 2025). Thus, effective educational planning can create a system that is adaptive to global change, innovative in resource management, and responsive to community needs.

One of the central roles of educational planning in supporting Sustainable Development Goal 4 (SDG 4) is ensuring alignment between national needs and the global agenda. Although a study by Araujo et al. (2024) emphasized that education serves as the foundation for all sustainable development goals because it shapes human capacity to understand, innovate, and participate in socio-economic development, educational planning must indeed view SDG 4 not only as a sectoral goal, but as a driving component that contributes to poverty alleviation, health improvement, and strengthening social institutions.

Recent research shows that when national education systems are designed to explicitly align policies, indicators, and monitoring mechanisms with SDG 4 targets, the outcomes are stronger in supporting human and institutional development (Adams et al., 2023; Lim et al., 2022). On the other hand, planning that is carried out separately or does not directly link education policy and the development agenda tends to fail to address cross-sectoral needs such as poverty alleviation and public health (Sain et al., 2023). Another risk is that SDG 4 will be treated as an "additional agenda" without strategic integration into the national development plan, thus under-utilizing its potential contribution to achieving other SDGs. Therefore, in the context of national education planning, it is important to integrate SDG 4 systematically: developing relevant indicators (e.g.,

graduation rates, skills for work, student literacy, and lifelong learning), ensuring links between education policies and other sectors (health, economic, social), and positioning SDG 4 as a development “driver” embedded in the medium- to long-term education strategy.

More operationally, several studies have shown that when educational planning aligns analysis of local community needs, flexible budget allocation, and ongoing monitoring, outcomes are better in terms of access, quality, and relevance of education for sustainable development. For example, a study of the SDGs rubric at the higher education level found that institutions that used structured, participatory, and data-driven indicators in strategic planning performed better in achieving SDG components, including strengthening institutional governance (Jungbadoor et al., 2025). This finding confirms that the comprehensive function of education to build competencies, instill sustainability values and ensure inclusive governance will not be achieved without systemic planning that connects these three functions in policy and real implementation.

In practice, the implementation of education planning in Indonesia still faces significant obstacles that hinder the education sector's full contribution to the SDGs. Several studies indicate that the education budgeting system is not fully adaptive and equitable: funding allocations that do not align with the needs of disadvantaged regions and weak intergovernmental distribution mechanisms reinforce inequalities in access to and quality of education services (Sumiyana & Effendi, 2024). Other research confirms that despite efforts to increase the national budget for education, the effectiveness of budget allocation at the district/city level varies so that learning outcomes and the availability of quality teachers remain uneven across regions (Wirandana & Khoirunurrofik, 2024).

In addition, the integration of SDGs indicators into regional planning documents and the education sector has not been optimal: a study of the integration of SDGs into regional development strategies found large variations between regions in the level of adoption of SDGs values and indicators, as well as weaknesses in vertical-horizontal coordination that make it difficult to synergize targets related to the quality and equity of education systematically (Putra et al., 2024). Systematic reviews and policy studies also show that technical capacity constraints (data literacy, evidence-based planning capabilities) and weaknesses in monitoring & evaluation mechanisms are the main inhibiting factors in translating planning documents into interventions that truly close the education gap (Hasibuan, 2024). Therefore, more pro-rata planning, strengthening regional planning capacity, and aligning SDG indicators into the planning-budget cycle are crucial to accelerate the achievement of SDG targets related to the quality and equity of education.

In its implementation, efforts have been made to integrate education planning in Indonesia into the National Medium-Term Development Plan (RPJMN) and regional development plans; however, the effectiveness of this implementation is still influenced by disparities between regions, regional institutional capacity, and limited human resources. A comprehensive study by Putra et al. (2024) found that although SDGs values have been incorporated into regional planning documents, the integration of SDGs indicators into regional development plans has been inconsistent: cross-sectoral coordination is often weak and stakeholder engagement tends to be formalistic without strong participatory implementation.

This finding is in line with studies that emphasize the role of regional institutional capacity: weak administrative capacity, limited competence of local planners, and the availability of regional data reduce the ability of local governments to design and implement education programs that are aligned with SDGs targets in a concrete manner (Burhanuddin et al., 2024). This strengthens the argument that improving institutional capacity (e.g., training planners, improving data systems, and resource allocation) is a prerequisite for aligning education plans with SDG targets.

Quantitative studies at the regional level also show that disparities in SDG performance across provinces/districts, including on education indicators, hinder the achievement of national targets if planning attention does not explicitly target disadvantaged regions; therefore, fragmented planning (without an emphasis on localization of indicators and regional priorities) risks neglecting the needs of the most vulnerable regions (Thamrin et al., 2023).

Based on this body of evidence, the need to strengthen participatory and synergistic planning mechanisms is increasingly clear: (1) strengthening cross-sectoral coordination (education, health, employment, technology) at the planning and budget levels; (2) developing localized and measurable SDG indicators at the regional level; (3) enhancing the technical capacity of regional planners and data systems for monitoring; and (4) ensuring that local stakeholders (civil society, the private sector, academia) are not merely formalities but are involved in program design, implementation, and evaluation. Empirical evidence from recent studies reinforces these recommendations as crucial steps to ensure that the integration of the SDGs into the RPJMN and regional plans truly impacts poverty alleviation, health improvement, and strengthening social institutions through education.

Therefore, education planning must be directed at strengthening cross-sector synergies and utilizing comprehensive data. Integrating SDG indicators into the National Medium-Term Development Plan (RPJMN) and regional development plans is a strategic step to ensure that education programs truly contribute to achieving global goals.

CONCLUSION

Educational planning plays a crucial role in supporting sustainable development because it serves as the foundation for formulating policies, programs, and resource management oriented toward achieving the Sustainable Development Goals (SDGs), particularly SDG 4 on quality education. Participatory, data-driven, and cross-sectoral planning enables education to function not only as a means of knowledge transfer but also as an instrument of human empowerment to achieve prosperity and sustainability across generations. Integrating SDG indicators into the National Medium-Term Development Plan (RPJMN) and regional development plans is a strategic step to ensure education policies align with the global agenda and reduce disparities in access and quality of education services.

However, the implementation of education planning in Indonesia still faces challenges such as budget constraints, regional disparities, and weak capacity of regional planners. Therefore, governance reforms are needed that strengthen equitable funding, improve data literacy, and expand public participation. Effective education planning must be able to connect the core functions of education human resource development, instilling sustainable values, and strengthening inclusive governance to become a national strategy that is adaptive, innovative, and responsive to community needs in realizing sustainable development.

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