



Education Sector Development as a Driver of Human Development Index Improvement in Indonesia

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Abstract

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Education is a key factor in improving the quality of human resources and strengthening national development. This study aims to analyze the contribution of the education sector to improving the Human Development Index in Indonesia through a qualitative descriptive approach using a systematic literature review. Data were obtained from fifteen peer-reviewed scientific articles published in the last five years that discuss the relationship between education, public policy, and human development indicators. The study results indicate that education has a direct influence on the knowledge dimension and an indirect influence on the welfare and health dimensions of the Human Development Index. Increased education budgets, equitable access, and the strengthening of quality learning processes have been shown to significantly improve the Human Development Index in various provinces. Moreover, the role of education in enhancing social inclusion and reducing poverty demonstrates its broader socio-economic impact. However, challenges such as regional disparities, unequal resources, and variations in teacher competence still need to be addressed. Therefore, Indonesia's human development policies should prioritize equitable, inclusive, and sustainable education as the fundamental foundation of national progress.



1. Introduction

Education is the main foundation for improving the quality of Human Resources (HR) and the progress of a nation. In the context of national development, education plays a strategic role as a strategic means to expand knowledge, improve skills, and strengthen the competitiveness of society in the midst of globalization. Without good educational development, the quality of human beings as development subjects is difficult to improve sustainably. According to Herdiansyah and Kurniati (2020), the education sector functions as the main driving force in accelerating the improvement of the Human Development Index (HDI), because the progress of education will directly affect the achievement of the knowledge dimension and the quality of life of residents of a region.

The Human Development Index (HDI) is a composite indicator used by the United Nations Development Programme (UNDP) to assess the success of human development through three basic dimensions, namely health, knowledge, and decent living standards. In the Indonesian context, HDI is not only a measure of the success of regional development, but also reflects the government's ability to provide quality public services, especially in the fields of education and health (Suparmi et al., 2018). Thus, the higher the level of public education, the greater its contribution to improving HDI and overall social welfare.

In recent years, various studies have shown that education factors have a significant influence on increasing HDI in Indonesia. For example, Zahroh and Pontoh (2021) found that the average years of schooling made a positive contribution to national HDI achievements, while science and technology variables

also strengthened human development achievements. Similarly, Research by Hill (2021) confirms that school participation rates have a positive effect on HDI, while poverty rates have a negative effect. These findings show that education not only plays a role in improving individual abilities, but also contributes to regional economic and social development.

Empirically, the increase in HDI in Indonesia shows a positive trend over the past decade. Based on data from the Central Statistics Agency, the national HDI increased from 70.18 in 2017 to 72.29 in 2021. This increase is largely driven by the increase in access and quality of education in various provinces (Yuliansyah, 2021). However, disparities between regions are still a major challenge, especially between urban and rural areas that have significant differences in terms of educational facilities, teacher competencies, and learning support infrastructure. Therefore, the equitable distribution of education development is a priority in an effort to strengthen social justice and improve the quality of life of the community as a whole.

In addition, government investment in the education sector is also a key factor in accelerating the increase in HDI. Maulina and Andriyani (2020) show that government spending in the education sector significantly increased HDI in 34 Indonesian provinces during the 2015–2019 period. This shows that public policies that are oriented towards improving the quality of education can have a long-term impact on human development. In other words, investment in education not only increases individual capacity, but also strengthens the economic and social resilience of a region.

Based on this description, it can be concluded that the development of the education sector has a direct contribution to increasing HDI through the knowledge dimension and indirectly through improving community welfare. However, there is still a gap between the policies implemented and the expected results, especially in areas with limited education infrastructure. Therefore, this research is important to explain how the development of the education sector can support the improvement of the Human Development Index in the regions, by emphasizing the relationship between education investment, human resource quality, and community welfare. The purpose of this study is to analyze the contribution of education development to HDI and identify factors that can strengthen the relationship between the two. The results of the research are expected to provide empirical evidence-based policy recommendations to support sustainable human development strategies in Indonesia.

2. Methods

This study uses a qualitative method with a descriptive approach, which aims to gain an in-depth understanding of the role of education sector development in increasing the Human Development Index (HDI) in Indonesia. This approach was chosen because the problems studied are conceptual and contextual, namely related to public policy, equitable distribution of education, and socio-economic factors that affect human development. According to Herdiansyah and Kurniati (2020), a descriptive qualitative approach is very relevant in describing complex social

phenomena holistically through the search for credible secondary sources and secondary data.

The method used in this study is Systematic Literature Review (SLR), which is a technique that is carried out systematically to identify, evaluate, and interpret all research results relevant to the topic being studied. The main stages in SLR include: (1) formulation of research focus, (2) literature search, (3) selection and filtering of sources, (4) content analysis and synthesis of data, and (5) reporting of study results. This procedure helps researchers find a logical relationship between education development and HDI based on previous empirical findings. The data in this study was obtained from secondary sources in the form of national and international scientific journals published through Google Scholar and verified academic databases. The inclusion criteria include articles published within the last five years, discuss the relationship between education, human development, and socioeconomic indicators, and have a scientifically accountable methodology. Conversely, articles that have no direct relevance to HDI or do not include empirical data are excluded from the analysis process.

The data analysis stage was carried out using an analytical descriptive approach, where each finding in the literature was categorized based on main themes, such as the contribution of education to HDI, the influence of government investment in the education sector, and challenges in equitable distribution of education quality in the regions. This analysis process also involves comparing research results to identify similarities and differences of views among researchers. The results of this process are then synthesized into a comprehensive picture of how

the development of the education sector contributes to increasing HDI in Indonesia. To maintain validity, this study ensures that all sources used come from reputable journals and have gone through a peer review process. Thus, the results of the study are expected to be able to make a theoretical and practical contribution in supporting sustainable human development policies through the education sector.

3. Results

Based on the results of a systematic study of several scientific articles published between the last five years, it can be concluded that the development of the education sector has a very significant influence on the increase of the Human Development Index (HDI) in Indonesia. Education is one of the most dominant factors that determine the success of human development, because it plays a direct role in strengthening the dimension of knowledge and indirectly affects the dimensions of health and community welfare. Herdiansyah and Kurniati (2020) emphasized that the education sector functions as the main driving force in the process of better quality human development, because the progress of education will have an impact on improving individual abilities, labor competitiveness, and regional economic productivity.

A study conducted by Zahroh and Pontoh (2021) shows that the average length of schooling or mean years of schooling has a positive and significant relationship with the achievement of HDI in Indonesia during the 2018–2020 period. The increase in average length of schooling signifies an improvement in the quality of public knowledge which ultimately contributes to increased productivity

and per capita income. Research by Hill (2021) also confirms that school participation rates also play an important role in increasing HDI, while poverty has a negative effect on human development achievements. These results show that education is not only an internal factor in increasing HDI, but also a determining variable that affects the socio-economic balance in society.

In terms of fiscal policy, Maulina and Andriyani (2020) found that government spending in the education sector had a direct impact on increasing HDI in 34 provinces in Indonesia during the 2015–2019 period. The increase in the education budget has an impact on expanding access to formal education, improving the quality of school facilities and infrastructure, and increasing job opportunities that have an impact on improving community welfare. Similar findings were obtained by Mongan (2019) who used a data panel approach, where an increase in public spending in the education sector by one percent can raise HDI by up to 0.4 points at the provincial level. These results confirm that public investment in education is an effective instrument in accelerating the improvement of the quality of human resources.

In addition to the financial aspect, education inequality between regions is also a crucial issue in human development in Indonesia. Rahma et al. (2019) identified educational disparities between urban and rural areas, which are mostly caused by imbalances in the distribution of teaching staff, differences in learning facilities, and uneven educational infrastructure. This inequality has a direct impact on the difference in HDI achievement between provinces. Areas with high quality of education show better HDI than disadvantaged areas in eastern Indonesia. This

shows that equal access and quality of education are the main prerequisites for realizing inclusive human development.

Conceptually, education has two strategic roles in increasing HDI, namely as a direct input and an indirect catalyst. As a direct input, education contributes directly to the dimension of knowledge which is reflected in the indicators of average school length and school length expectations. Meanwhile, as an indirect catalyst, education encourages increased economic productivity, poverty reduction, and improved public health quality (Haseeb et al., 2020). This synergistic relationship between education and economic development is also emphasized by Aminah and Saksono (2021), who show that the advancement of education creates a productive workforce, while strong economic growth allows the government to expand investment in the education sector. Thus, education and economic development form a positive cycle that strengthens the increase in HDI.

The trend of increasing HDI in Indonesia over the past few years indicates success in education development. Yuliansyah (2021) reported that the national HDI increased from 70.18 in 2017 to 72.29 in 2021, largely influenced by increased access to primary and secondary education. However, disparities between regions are still an important issue. Areas with fiscal constraints face difficulties in providing adequate educational facilities. As a result, HDI in the region is still below the national average. Iryani and Ramdani (2019) through their research found that low HDI is caused by a lack of educational facilities and a low level of school participation. This emphasizes that government policy interventions in

disadvantaged regions must be directed at providing educational infrastructure and improving the competence of educators.

Suhaili et al. (2020) added that government investment in higher and vocational education is an important factor to improve the quality of human resources oriented to the world of work. Vocational education is considered more effective in increasing HDI because it is able to increase the skills and productivity of the workforce while reducing the unemployment rate. Suwandaru et al. (2021) supports this view by showing that job training programs and non-formal education play a major role in improving the quality of the informal sector workforce, which is a significant part of the Indonesian economy. Thus, education is not only limited to the formal level, but also includes lifelong learning that is relevant to the needs of the labor market.

Based on the synthesis of literature, the increase in HDI in Indonesia cannot be separated from the government's success in managing education policies. However, the effectiveness of these policies is highly dependent on the fiscal capacity and ability of regions to implement them. Purbadharmaja et al. (2019) shows that regions with high fiscal capacity tend to be able to increase HDI faster than regions with limited budgets. Therefore, it is necessary to decentralize education policies accompanied by strong supervision so that the allocation of education funds can be used effectively and on target.

The overall results of this literature review show that the development of the education sector contributes greatly to the increase of HDI, both through increasing access, learning quality, and equitable distribution of education throughout

Indonesia. Education has proven to be the main motor that drives human development because it directly improves the intellectual and social abilities of the community and indirectly strengthens the economic and health aspects. Herdiansyah and Kurniati (2020) in their research in City B proved that the improvement in the quality of education during the 2015–2019 period had an impact on a significant increase in HDI. Similar things were also found by Maulina and Andriyani (2020) and Zahroh and Pontoh (2021), where education investment and increased school participation were shown to be positively correlated with HDI growth.

However, these studies also highlight that the biggest challenge for human development in Indonesia lies in the disparities between regions and the inequality in the quality of educators. The government needs to strengthen the policy of equitable distribution of education through continuous training for teachers, improving curriculum standards, and providing equitable learning facilities. In addition, cross-sector collaboration between education, economy, and health also needs to be strengthened to realize more comprehensive human development. Education must be seen not just as a statistical variable in the calculation of HDI, but as the main foundation that determines the direction and sustainability of national development.

Thus, it can be concluded that the development of the education sector is the main key in strengthening the quality of human resources in Indonesia. Sustainable investment, fair policies, and equitable access to inclusive education will ensure that the increase in HDI does not only occur in big cities, but also reaches all levels of society in remote areas. Quality, relevant, and sustainable education will be the main

driver in realizing Indonesia's vision of superior, competitive, and prosperous human development.

4. Conclusion

The development of the education sector has a very vital role in improving the quality of human resources and encouraging the growth of the Human Development Index (HDI) in Indonesia. Through improving access, quality, and equity in education, people can gain relevant knowledge and skills to face increasingly complex economic and social challenges. Quality education directly contributes to the improvement of the knowledge dimension in HDI, as well as indirectly improving the welfare of the community through increasing productivity and competitiveness of the workforce.

The results of the study show that effective education investment, equitable education quality policies, and synergy between education, economy, and health are key factors in strengthening sustainable human development. The challenges still faced include the quality gap between regions, limited infrastructure, and disparities in the competence of teaching staff. Therefore, a more inclusive and adaptive policy is needed so that every citizen has an equal opportunity to obtain a decent education. Thus, education is not only an indicator of development, but also the main motor in creating a knowledgeable, prosperous, and highly competitive society.

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