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Academic policy for establishing new junior high schools in South Tangerang City

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ABSTRACT

This study explores the academic policy regarding establishing new Junior High Schools (SMP) in South Tangerang City in response to the rising number of Elementary School (SD) graduates and the limited availability of secondary education facilities. Using a theoretical and quantitative approach, the research applies the "Social Demand Approach" planning model to identify the need for new schools. Findings reveal a significant imbalance between the number of SD and SMP, particularly in Setu, North Serpong, Pondok Aren, and Ciputat sub-districts, highlighting an urgent need for new school units (USB) and classrooms (RKB) to ensure equitable access to quality education. The analysis is supported by geographic and demographic data, considering essential variables such as student group sizes (rombel). Therefore, the policy for establishing new schools in South Tangerang City must be implemented promptly to address primary and secondary education challenges, ensuring adequate facilities for the growing student population. The research emphasizes the importance of addressing educational infrastructure needs to support student's educational progress and highlights the critical role of geographic information systems (GIS) in mapping school locations and planning future school development.

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ABSTRAK

Penelitian ini mengeksplorasi kebijakan akademik terkait pendirian Sekolah Menengah Pertama (SMP) baru di Kota Tangerang Selatan sebagai respons terhadap meningkatnya jumlah lulusan Sekolah Dasar (SD) dan terbatasnya ketersediaan fasilitas pendidikan menengah. Dengan menggunakan pendekatan teoritis dan kuantitatif, penelitian ini menerapkan model perencanaan "Social Demand Approach" untuk mengidentifikasi kebutuhan akan sekolah baru. Temuan menunjukkan ketidakseimbangan yang signifikan antara jumlah SD dan SMP, khususnya di kecamatan Setu, Serpong Utara, Pondok Aren, dan Ciputat, menyoroti kebutuhan mendesak akan unit sekolah baru (USB) dan ruang kelas (RKB) untuk memastikan akses yang merata terhadap pendidikan berkualitas. Analisis didukung oleh data geografis dan demografis, mempertimbangkan variabel penting seperti ukuran kelompok peserta didik (rombel). Oleh karena itu, kebijakan pendirian sekolah baru di Kota Tangerang Selatan harus dilaksanakan segera untuk mengatasi tantangan dalam pendidikan dasar dan menengah, serta memastikan fasilitas yang memadai bagi populasi peserta didik yang berkembang. Penelitian ini menekankan pentingnya pemenuhan kebutuhan infrastruktur pendidikan untuk mendukung kemajuan peserta didik. Sistem informasi geografis (GIS) memainkan peran penting dalam pemetaan lokasi sekolah dan perencanaan pengembangan pendidikan di masa depan.

Kata Kunci: *Kebijakan pendidikan; kelompok belajar pendirian SMP; social demand approach*

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INTRODUCTION

Establishing new schools in Indonesia is a crucial strategic step in improving access to secondary education for school-aged children. Establishing schools is generally important considering the need to improve secondary education participation rates, especially in remote and underdeveloped areas (Alfasisromarakap et al., 2021; Nasir et al., 2023). Adding new schools is expected to reduce educational disparities between urban and rural areas and between large and small islands in Indonesia (Shaturaev, 2021). In addition, establishing new schools also aims to meet the increasing educational needs in line with the growth in the number of school-age children (Patandung & Panggua, 2022). The Indonesian government has released various regulations to support establishing new schools. This policy encompasses planning, funding, and implementation aspects that must be aligned with *Rencana Pembangunan Jangka Menengah Nasional (RPJMN)* and the education decentralization policy. The central government collaborates with local governments to prepare strategic plans for establishing new schools, which involves analyzing local needs, land availability, and adequate human resources. This regulation also emphasizes the importance of inclusivity, ensuring that the established schools can accommodate students from various socio-economic backgrounds and special needs.

The strategy for establishing new schools involves cooperation between the central and regional governments in formulating strategic plans. This process includes the analysis of local needs, land availability, and adequate human resources. The central and regional governments are obligated to provide quality educational services equitably and justly by the mandate of the Law, covering basic to higher education. In line with academic thinking, policies, and the real conditions regarding the needs of basic education, both the central and regional governments are obligated, by the mandate of the Law, to provide quality educational services, including basic, secondary, and higher education, equitably and justly for all citizens (Gunawan, 2020).

Basic education as the initial stage in nation-building is crucial in establishing a foundation for superior Human Resource capabilities before progressing to higher levels, namely Senior High School or Vocational School (Sumiyaty et al., 2023). The concept provides the meaning that basic education is expected to be able to shape character and basic learning abilities, not merely as a process of theoretical teaching and memorization, but rich in the integrity of how an educational process through a curriculum is tailored to the needs and development of children in basic education age. For that reason, the condition of basic education should be positioned correctly according to the needs of quality human resource development, easily accessible to the community, and capable of providing good services.

Establishing a new school in Indonesia involves navigating the complex educational policy landscape, community needs, and curriculum development. Educational reform in Indonesia drives internal changes, such as the restoration of school pedagogical autonomy, as well as external changes that involve education as part of a broader socio-economic reform (Rosser, 2023; Wang et al., 2023). Community involvement and policy implementation are crucial in establishing new schools, with models like the Indonesian School in Riyadh (ISR) demonstrating the importance of government support and community partnerships (Widhawati, 2022). In addition, the presence of community institutions such as religious organizations can also serve as a bridge to form inclusive, tolerant, and relevant educational policies that meet the needs of society (Nasril et al., 2024). The student admission zoning system, implemented in Indonesia, reflects challenges and opportunities in reducing educational disparities by bringing schools closer to students' residences, despite facing infrastructure issues and public perception (Nurlailiyah, 2019; Syakarofath et al., 2020; Yuliani, 2021).

When establishing a new school in Indonesia, it is important to consider various educational needs and policy frameworks, including integrating local culture and environment into the curriculum (Efendi &

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Sholeh, 2023). Community involvement and government support can enhance the effectiveness and sustainability of new educational institutions. However, challenges such as resource allocation and teacher training must be addressed seriously to ensure quality education for all learners, which ultimately supports the development of a more inclusive and effective education system across the country (Kusuma et al., 2024; Triarsuci et al., 2024).

The literature review begins by referencing several relevant previous studies. A mixed-methods approach to explore the urgency of school infrastructure development in response to zoning policies that impact student access to public schools in Indonesia, particularly in Batu City. The policy formulation process, particularly at the agenda-setting stage, highlights the importance of expanding public schools in areas underserved by zoning to ensure equitable access to education and support the development of human resources at the local level (Setyawan & Firdausi, 2021). This study strengthens the policy foundation of this article by highlighting the importance of zoning considerations in planning educational infrastructure in areas experiencing disparities in educational facilities.

Other research shows that schools in Chile tend to respond to competitive incentives from market-based education policies, influenced by their socio-economic position in the local education market. These findings reveal that schools more often focus on maintaining their market position rather than improving the quality of education through student selection, marketing, and exam-focused teaching (Zancajo, 2020). This study is relevant in supporting the analysis of this article regarding the importance of responsive and adaptive policies in promoting educational equity, especially in areas that are likely to experience pressure from the education market. Both of these pieces of literature underscore the importance of in-depth contextual analysis in educational policy to address the challenges of educational infrastructure in South Tangerang City and to support efforts to provide inclusive and quality educational facilities.

This study offers a novelty approach to school needs evaluation by utilizing Geographic Information System (GIS) technology for more accurate school location mapping. This differs from previous studies focusing on policy analysis without integrating spatial technology. The problem of this research is the uneven access to secondary education in South Tangerang City and the need for a more comprehensive evaluation to support the new school policy.

This research aims to evaluate the need to establish new junior high schools (SMP) in South Tangerang City by considering academic, legal, and policy values, as well as the actual conditions on the ground. In addition, this research aims to provide data-based recommendations regarding the number of new classrooms (RKB) and new school units (USB) needed to ensure equitable access to basic education for all school-aged children. This research also aims to identify and analyze the differences in educational needs in each sub-district, using GIS to accurately map school locations and support more effective and responsive educational policy planning to meet community needs.

LITERATURE REVIEW

Educational Planning

The Social Demand Approach in educational planning focuses on meeting the community's educational needs based on quantitative data regarding the number of students and available facilities. Social Demand Approach in educational planning focuses on meeting the needs of the community based on quantitative data related to the number of students and the availability of educational facilities (Sutcher et al., 2019; Welsh & Swain, 2020). This study uses the Social Demand Approach to identify the urgent need for new schools in areas experiencing disparities in educational facilities, such as Setu, North Serpong, Pondok Aren, and Ciputat in South Tangerang City. Through this approach, education planners can assess whether the existing facilities can accommodate the increasing number of students and more accurately

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identify areas requiring additional schools or classrooms to address capacity shortages. Through this approach, education planners can assess the extent to which the current availability of educational facilities can meet the continuously increasing demand and identify areas that require additional schools or classrooms to address capacity shortages (Sutcher et al., 2019). The Social Demand Approach ensures that education policies and facility development are based on real data and the concrete needs of the community, which in turn can improve access and the quality of education. (Okolie et al., 2019; Penuel et al., 2020).

Economics of Education focuses on analyzing costs and benefits of investments in the education sector, including the construction of new schools. This theory evaluates the expenditures required to establish and operate schools compared to the long-term benefits of improved access and education quality (Bellei & Munoz, 2023). The evaluation of establishing a new school includes analyzing construction costs, operational costs, and the potential positive economic impact, such as improving workforce skills and economic productivity (Surur et al., 2020). By considering these economic factors, education policies can be designed to ensure that investments in education provide optimal benefits for society. Integrating these two theories, the Social Demand Approach and the Economics of Education, in educational planning helps in making informative and effective decisions regarding the establishment of new schools, ensuring that the decisions made not only meet educational needs but also contribute to overall economic and social development.

Curriculum and New School Development

Curriculum Design Theory focuses on designing and developing curricula to meet educational needs in new schools. This theory involves selecting appropriate teaching materials, effective teaching methods, and a comprehensive assessment system (Martin et al., 2019). Curriculum design must consider various factors, including educational goals, student needs, and relevant academic and cultural standards (Kieran & Anderson, 2019). This approach ensures that the curriculum not only meets the academic needs of students but also reflects the social and cultural context in which the school operates (Bovill & Woolmer, 2019; Pak et al., 2020). This design process often involves collaboration between educators, curriculum experts, and stakeholders to create an inclusive and adaptive curriculum that can facilitate high-quality learning.

Needs Assessment is a systematic process to determine the specific needs of students and the community in a new school. This needs assessment includes data collection through surveys, interviews, and educational data analysis to identify the gap between the current conditions and the desired educational goals (Heilmann & Bertone, 2021; Menggo et al., 2019). With the obtained information, curriculum developers can design teaching materials and methods that are relevant and responsive to those needs. Needs Assessment ensures that the developed curriculum meets academic standards, is relevant, and can address the challenges students face (Ajjawi et al., 2020; Mpuangnan & Ntombela, 2024). This process serves as the foundation for continuous and effective curriculum adjustments, ensuring that the implemented educational programs can deliver optimal results in line with the community's and learners' expectations.

Geographic Information System *(GIS)*

A Geographic Information System (GIS) is designed to capture, store, manipulate, analyze, manage, and display geographic or spatial data. GIS is important in various fields, such as urban planning, natural resource management, the environment, and other sectors that require location-based analysis. (Pei et al., 2021). GIS technology enables integrating spatial data with attribute data, allowing users to visualize

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and analyze information in a geographical context. One of the main advantages of GIS is its ability to combine various types of spatial data from different sources and display that information in the form of interactive maps (Sami & Hussein, 2024). Users can use GIS to uncover patterns or trends, perform predictive modeling, and make data-driven decisions more accurately. GIS also supports real-time data mapping and analysis, which is useful for disaster response, transportation, and infrastructure management (Zhou et al., 2020).

GIS plays an important role in research as an analytical tool that enables a comprehensive evaluation of the distribution of educational facilities. This technology integrates spatial data and demographic attributes to map school locations and identify gaps in educational access. With the generated interactive maps, stakeholders can identify areas with an urgent need for establishing new schools, assess accessibility based on distance and population density, and design more responsive and targeted policies. The role of GIS not only enhances accuracy in educational planning but also ensures the equitable distribution of educational facilities, especially in areas that are not adequately served.

GIS is becoming increasingly relevant in education because it allows institutions to identify and respond to educational needs based on geographic distribution. Using GIS, the education department or related institutions can evaluate the needs for facilities and infrastructure, determine the ideal location for schools, and monitor the distribution of teachers and other educational resources (Köse et al., 2021). GIS also helps in demographic analysis, allowing the government to plan the construction of new schools that meet the needs of the local population. Related to mapping school locations, GIS can be used to assist stakeholders in determining the strategic placement of new schools or identifying locations of schools that need improvement (Maige et al., 2022). Using GIS, school distribution analysis can be conducted based on accessibility, population density, and distance to residential centers (Al-Sabbagh, 2022). This allows the government and educational institutions to ensure that all children have equal access to educational facilities, especially in remote or marginalized areas.

METHODS

The analysis model of this research uses two main approaches, namely the theoretical library approach (Library Research) emphasizing policy theory, legal policy, sociological, and philosophical aspects, and a quantitative approach referring to the "Social Demand Approach" planning model. The Social Demand Approach is an approach in development planning that focuses on meeting the needs and expectations of the community as determined through their participation and preferences (Bibri et al., 2020; Paul, 2024). This model is considered very suitable for use in educational needs planning, to expand learning opportunities for the community in response to the demand for educational opportunities. The function of the government and local governments is to meet that demand by providing learning opportunities through establishing new schools, prioritizing their establishment in areas in great need or regions where the community has difficulty accessing education.

The use of local data regarding classroom capacity and the distribution of existing schools, prioritizing areas that most need educational facilities, such as Setu, North Serpong, Pondok Aren, and Ciputat. This modification allows the Social Demand Approach to function as a needs analysis model and as a guide for more targeted planning. By emphasizing more equitable access to education, this model is adjusted to identify areas that require development priorities and direct educational resources to regions with limited access.

The stages of this research are as follows:

1. Collection of Educational Needs Data

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Data on the community's educational needs were collected through a survey of 300 respondents from priority sub-districts (Setu, North Serpong, Pondok Aren, and Ciputat) that have been identified as experiencing disparities in access to education. The sampling technique used is stratified random sampling to ensure the representation of the population based on student demographics, population density, and accessibility conditions to educational facilities.

2. Collection of Student Potential Data

   Data on the potential number of students, specifically those requiring additional educational facilities, is obtained through the regional education database and school surveys. This survey involves school principals in each district to obtain information about classroom capacity and the annual number of graduates.

3. Geographic Data Collection Using GIS

   Geographic data collection is carried out by utilizing a Geographic Information System (GIS) to map the locations of schools and demographic conditions in the research area. This stage includes identifying the geographical coordinates of existing schools and overlaying them with demographic data, which visualizes the distance students need to travel to the nearest school. GIS is also used to analyze the population density of students in areas lacking educational facilities, making it easier to accurately map the need for new schools.

4. Data Analysis with Projection and Difference Model

   Data analysis was conducted using two projection models:

   a. Student Enrollment Projection Model: This model considers demographic data to estimate the number of students needing secondary school places in the coming years.
   b. Difference Model: This model compares the number of students with the available school capacity, thereby identifying the shortage of new classrooms *(RKB)* and new school units *(USB)* at the junior high school level.

The results of the calculations from both models are used to make policy recommendations for the construction of new schools, and the difference in results between the projection model and the difference model serves as the basis for prioritizing areas that most urgently need additional educational facilities. The feedback cycle in this process allows for continuous evaluation of policies based on implementation and community response. The results of the implemented policy recommendations are continuously monitored and evaluated so that adjustments can be made to ensure equitable and optimal quality of education throughout the South Tangerang City area.

RESULTS AND DISCUSSION

Results

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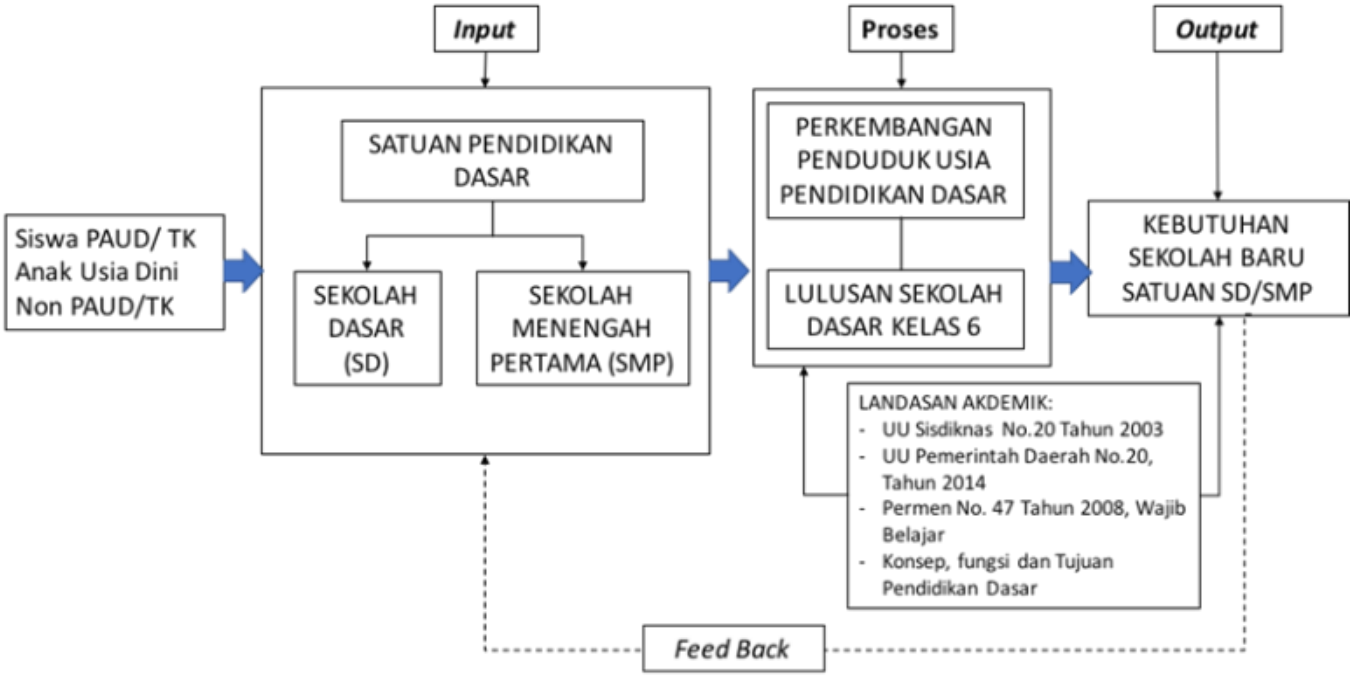

Figure 1. Conceptual Research on the Policy of Establishing New Schools
Source: Research in 2024

Analysis and academic research on the needs related to the organization and addition of new basic education quotas, either in the form of new classrooms or new school units, so that all graduates of elementary schools can access (be accommodated in) junior high schools, and vice versa, the provision of new school units in elementary schools is intended so that all children of elementary school age (7-12) can be accommodated in elementary schools by the compulsory education policy outlined in *Peraturan Pemerintah Nomor 47 Tahun 2008 tentang wajib belajar.* In the research on establishing new schools (**Figure 1**), "Input" can refer to relevant data and information such as community needs, student potential, and the geographical conditions of South Tangerang City. "Process" involves analyzing and assessing the data, which may include feasibility studies, reviews of existing educational policies, and strategic planning. "Output" is the recommendation or final decision regarding establishing a new school that is expected to meet the educational needs in the area.

The feedback cycle in this diagram shows that policy research results are not final, but rather open to continuous evaluation and adjustment. Feedback from the "Output" stage to the "Input" stage reflects the need for revisions or improvements based on policy implementation and community response. This is important in ensuring that the implemented policies are truly effective and in line with the dynamics occurring on the ground. In other words, this approach encourages a policy process that is adaptive and responsive to the changing needs and conditions of the community, which ultimately can improve the quality of education in South Tangerang City.

The policy values that form the basis of this research are the theoretical, legal, sociological, and philosophical values of policy, which serve as society's fundamental rights and obligations. These are central to improving services and access to basic education policies for the community, thereby impacting the number of schools needed by population growth. This research not only produces theoretical academic values but also presents a map of school location conditions using Geographic Information System (GIS); which generates information on the number of new elementary and junior high schools that truly need to be established to ensure equal learning opportunities for children of elementary and junior high school age as a mandatory duty of the district/city government based on *UUPD No. 23/2014*. Therefore, this school

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needs analysis at the smallest regional aggregate to ensure that all children aged 6-12 years and 13-15 years have access to education.

Based on the difference by considering the *APS SMP*, there is a slight difference when using the projection formula. However, this difference is not very noticeable except for the Serpong District. Using the projection formula, Serpong District does not experience a shortage of *RKB* or New School Units for SMP, whereas using the difference formula, Serpong District has a shortage difference between the number of graduates and the available *RKB* in *SMP RKB* by 4 New Classrooms, or equivalent to a shortage of 0.1 *USB* (New School Units). Overall, the shortage of New School Units in the junior high school unit, if all 6th-grade elementary school graduates continue their studies to 7th grade (junior high school) with an *APS* of 98.20, then South Tangerang City needs to build 17 New Junior High School Units in 2024, assuming each junior high school has an average of 33 classes based on Dapodik data from Tangerang City in 2023. However, if the projection formula considers the population aged 13-15, South Tangerang City will need 14 new junior high school units in 2024.

Table 1. Comparison of Public and Private Elementary/Middle Schools in South Tangerang City by District

District	Projection Formula		Difference Formula *(APS)*	
	New Classroom *(RKB)*	**New School Unit *(USB SMP)***	**New Classroom *(RKB)***	**New School Unit *(USB SMP)***
Pondok Aren District	95	3	193	5
Pamulang District	155	5	128	3
Serpong District	Sufficient	Sufficient	14	0,4
Ciputat District	84	3	111	3
East Ciputat District	64	2	24	0,7
North Serpong District	24	0,7	55	1
Setu District	45	1	58	1
Total	467	14	584	17

Source: Research in 2024

Based on **Table 1**, the difference in the need for *RKB (USB SMP)* is not too significant, therefore the policy or decision-making in establishing development policies and the provision of *RKB* or *USB SMP* highly depends on the policies of the South Tangerang City government, as well as the availability of budget and the urgency of SMP development that is academically and socially required. Those calculations are by the standard formulas commonly used by institutions in Education. The analysis of the need for new classrooms *(RKB)* and new school units *(USB)* for junior high schools in South Tangerang City shows significant differences in each district. For example, the Pondok Aren and Pamulang districts show a high demand for new junior high school classrooms *(RKB)* and new school units *(USB)*. Pondok Aren needs 193 classrooms and five junior high school units, while Pamulang needs 128 classrooms and three junior high school units. This need reflects the high number of elementary school graduates who must continue their education to the junior high school level and the inadequacy of the existing educational facilities.

On the other hand, districts like Serpong show that the need for educational facilities is already sufficient. However, there is a small additional need of 14 classrooms and 0.4 junior high school USBs. This indicates that the educational infrastructure in Serpong is relatively good and can accommodate the growth in the number of students. Conversely, the districts of Ciputat Timur and Serpong Utara show a greater urgent need compared to other districts, with Ciputat Timur requiring 24 RKB and 0.7 USB SMP, and Serpong Utara requiring 55 RKB and 1 USB SMP. Overall, the total need for RKB in South Tangerang City is 467,

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while the total need for USB SMP is 14. However, compared to the projections, the actual needs are much greater, with a total of 584 RKB and 17 USB SMP. This gap highlights the need for more planned school development policies and a higher priority to address the region's educational facilities imbalance. More focused and structured efforts to improve educational infrastructure will help ensure fair and quality education access for all South Tangerang City students.

The number of children of primary school age in South Tangerang City continues to increase, which impacts the high number of elementary school graduates. Therefore, the policy of providing new schools, especially junior high schools, is very necessary. This is evident from the limited number of public junior high schools, especially in certain areas where the availability of both public and private junior high schools is limited, thus not sufficiently meeting the needs of elementary school graduates to continue to a higher level (junior high school). The comparative condition can be observed in the following table.

Table 2. Comparison of Public and Private Elementary/Middle Schools in South Tangerang City by District

No	Districts	Elementary School						Middle School					
		Status			Students			Status			Students		
		N	S	N + S	N	S	N + S	N	S	N + S	N	S	N + S
1	Pondok Aren	35	43	**78**	16.119	13.436	**29.555**	3	44	**47**	4.168	7.445	**11.613**
2	Pamulang	28	45	**73**	16.225	10.374	**26.599**	5	37	**42**	6.210	4.923	**11.133**
3	Serpong	21	39	**60**	9.659	11.551	**21.210**	4	37	**41**	4.529	5.318	**9.847**
4	Ciputat	27	27	**54**	15.494	8.455	**23.949**	3	34	**37**	2.667	5.940	**8.607**
5	East Ciputat	18	11	**29**	10.568	2.274	**12.842**	4	15	**19**	5.621	2.408	**8.029**
6	North Serpong	16	19	**35**	7.419	6.124	**13.543**	3	16	**19**	2.897	3.449	**6.346**
7	Setu	12	3	**15**	6.914	1.174	**8.088**	2	8	**10**	1.996	1.590	**3.586**
Total		157	187	**344**	82.398	53.388	**135.786**	**24**	**191**	**215**	**28.088**	**31.073**	**59.161**

Source: Dapodik Elementary and Middle Schools in South Tangerang City for the 2022/2023 Academic Year

Table 2 compares the number of Public/Private Elementary Schools *(SD)* and the number of Public/Private Junior High Schools *(SMP)* in South Tangerang City, which nearly reaches a ratio of 1:1.59. Suppose all elementary school students continue to junior high school. In that case, the available facilities are likely insufficient, especially in areas with a high elementary to junior high school ratio. For example, there are 157 public elementary schools and only 12 public junior high schools, showing a significant ratio of 1:6. If combined with private schools, the situation still shows that the capacity of junior high schools is insufficient, especially in several districts such as Setu, North Serpong, Pondok Aren, and Ciputat.

A more in-depth analysis reveals that each sub-district has different conditions regarding the availability of junior high schools. Pondok Aren District has a ratio of public junior high schools to public elementary schools of 1:11, Ciputat 1:9, North Serpong 1:5, and Setu 1:6. This disparity indicates an unevenness that is likely caused by several factors, such as population growth rates, settlement distribution, and differences in geographical accessibility. The Pondok Aren and Ciputat districts, which have the highest ratio, are areas with a continuously increasing school-age population. However, the development of adequate educational facilities has not matched this. Meanwhile, the North Serpong and Setu districts also experience a capacity deficit, although they have relatively smaller needs.

This disparity indicates the need for an education policy responsive to each sub-district's needs. To adjust to these specific conditions, education policies in South Tangerang City must be designed to prioritize the development of junior high schools in areas with the most severe facility disparities. One of the

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recommended approaches is implementing a zoning system that considers the population density of school-age children, while encouraging the construction of junior high schools in the areas that need them the most through special budget allocation incentives.

Mapping through Geographic Information System (GIS) allows for a more detailed needs analysis. GIS can help identify specific areas within each sub-district that are farthest from access to junior high schools and direct development priorities based on field conditions. Thus, the proposed policy can be more adaptive and able to meet the needs of each sub-district, ensuring that every school-aged child has access to quality educational facilities and reducing existing disparities. This research is also expected to serve as a basis for government decision-making in establishing new junior high schools by the standards of the *Kementerian Pendidikan dan Kebudayaan* policies, in order to improve the equity and quality of basic education services in South Tangerang City.

Discussion

The results of the research conducted to examine the policy of establishing new Junior High Schools *(SMP)* in South Tangerang City reveal several fundamental policy values that serve as the foundation of this study. These include the theoretical values of the policy, legal aspects, and sociological and philosophical considerations related to the basic rights and obligations of the community in obtaining education. The policy of establishing new schools is driven by improving services and access to basic education for the community, which directly affects the need for new schools in line with the growing population (Nasir et al., 2023; Teja, 2015). In addition, this research also involves mapping the conditions of school locations using Geographic Information System (GIS), which provides a clear picture of the real needs on the ground, especially in terms of the number of new Elementary Schools *(SD)* and Junior High Schools *(SMP)* that need to be established to ensure equitable learning opportunities. This research focuses on theoretical values and includes in-depth empirical analysis regarding school needs at the smallest regional levels. This ensures that every child aged 6-12 years (for elementary school) and 13-15 years (for junior high school) in South Tangerang City receives adequate access to education. GIS in this research significantly contributes to accurately mapping school needs, enabling more targeted and efficient planning in providing educational facilities. This aligns with the responsibilities of the District/City government based on the Regional Government Law *(UUPD)* No. 23 of 2014, which emphasizes the importance of equitable provision of basic education as a government obligation.

In estimating the need for junior high schools in South Tangerang City, this study identifies school size as a variable that influences the quality of education. The size of the school can affect the quality of education because the size of the school is directly related to the school's capacity to provide education (Díez et al., 2020; Madani, 2019). This research found that education provision in large classes tends to have lower quality than small classes. Therefore, the size of the learning groups *(rombel)* becomes one of the crucial factors considered in determining the need for new classrooms *(RKB)* or new school units *(USB)*. This analysis emphasizes that the policy of establishing new classrooms must consider the student cohort's size to ensure optimal educational quality. Interestingly, this study also revealed minor differences in calculating the need for *RKB* or *USB SMP* based on the two formulas used: the projection and difference formulas, considering the School Participation Rate *(APS)*. Although there are differences, the results are insignificant except in the Serpong District. According to the projection formula, Serpong District does not require additional *RKB* or *USB SMP*, but using the difference formula, a shortage of 4 *RKB* or 0.1 *USB* was found in that district. This shows that the calculation method can affect the results, although the difference is insignificant.

The results of this study show similarities with several trends occurring in other regions, particularly regarding the urgent need for the addition of secondary education facilities due to the growth in the student

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population not being matched by an increase in school capacity. For example, research conducted in Batu City, Indonesia, also found a similar imbalance between the number of elementary and junior high schools, affecting students' access to the secondary level. These findings align with trends in various urban areas that face similar challenges in ensuring the equitable distribution of educational facilities (Setyawan & Firdausi, 2021). However, the results of this study also reveal specific differences, particularly related to sub-districts that have varying needs based on the calculations of two models (projection and difference). For example, the difference formula calculation shows additional needs in the Serpong District, whereas the projection calculation shows the opposite. This difference may be caused by unique local conditions in South Tangerang City, such as rapidly changing population dynamics in certain areas and differences in the distribution of private and public schools. These unexpected results highlight the importance of using diverse calculation methods to obtain a more accurate picture of needs and the importance of adapting policies specifically for each district. This research reinforces previous findings on the importance of responsive and adaptive data-based policies in addressing educational challenges, especially in areas with rapid population growth and varying educational needs.

Based on the school needs analysis using the difference formula, South Tangerang City needs 17 new junior high school *USBs* in 2024 if all elementary school graduates continue their studies to junior high school, considering an *APS* of 98.20%. On the other hand, the projection formula estimates that South Tangerang City will need 14 new junior high school units in the same year. This difference, although small, highlights the importance of careful consideration in decision-making related to the construction of new schools. When building a new school, careful consideration must be given to implementing education at the school. Factors such as the school-age population's growth and existing schools' capacity must be carefully considered. Decisions regarding the construction and provision of *RKB* or *USB SMP* in South Tangerang City heavily depend on local government policies and budget availability. The South Tangerang City Government must consider the urgency of building new junior high schools based on the identified academic and social needs.

CONCLUSION

This research concludes that the need to establish new Junior High Schools *(SMP)* in South Tangerang City is very urgent to support the equitable distribution of educational access, especially in sub-districts with high facility disparities, such as Setu, North Serpong, Pondok Aren, and Ciputat. The research findings reveal an imbalance between the number of existing Elementary Schools *(SD)* and Junior High Schools *(SMP)*, which impacts the limited capacity to accommodate *SD* graduates at the secondary education level. The strategic implications of this research emphasize that the South Tangerang City government needs to plan and allocate budgets promptly and effectively to construct new school units *(USB)* and new classrooms *(RKB)* to meet the increasing educational needs. Furthermore, the analysis of the findings indicates the importance of considering the size of student groups *(rombel)* in determining school capacity to maintain the quality of education. An adaptive and data-driven approach, including the use of Geographic Information System (GIS) technology, is recommended for accurately mapping the needs of educational facilities, so that development priorities can be adjusted to each region's demographic and geographic conditions.

Recommendations

As a recommendation, the government of South Tangerang City is advised to conduct in-depth research on future educational needs, including projections of school-age population growth. Periodic evaluations of the policies that have been implemented are also important to ensure that the decisions made remain relevant to the developments in social and demographic conditions. In addition, the government needs to

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enhance cooperation with the private sector and the community in providing educational facilities so that the equitable distribution of education can be achieved more quickly and efficiently. The equitable distribution of basic education is an important factor considering the compulsory education policy enacted by the government, so the policy of equitable distribution of quality basic education must continue to be monitored by the South Tangerang City government because it has a strong academic, philosophical, social, and political foundation.

The construction of new school units at the primary education level is an obligation and authority by the mandate of regional autonomy. Based on the analysis, the construction of new classrooms or new school units is a policy that must be implemented to ensure the equitable distribution and access to education for the people of South Tangerang City. In 2024, the construction of new junior high school units is needed in almost all districts of South Tangerang City, except for the Serpong District, which is considered sufficient based on the conditions and the number of residents of basic education age. Based on calculations, the number of *USB SMP* units needed in 2024 reaches 467 *RKB* or requires the construction of 14 *USB SMP* units. In line with the development of the population of basic education age, it is estimated that by 2028, 549 classrooms or 16 junior high schools will be needed. However, the need for the construction of junior high school *USBs* must be adjusted to the available budget policy and the urgent needs in each sub-district, with the most urgent priority for the construction of junior high school *USBs* in the sub-districts of Pamulang, Pondok Aren, Ciputat, East Ciputat, and Setu.

AUTHOR'S NOTE

The author states that there is no conflict of interest related to the publication of this article. The author asserts that the data and content of the article are free from plagiarism.

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