



Original Article

Addressing Teacher Shortages through Strategic Human Resource Management in Rural Vocational Schools in Indonesia

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Abstract: Teacher shortages in rural private vocational schools have become a critical issue affecting the sustainability and quality of vocational education, particularly in specialized fields such as agriculture and local cultural subjects. This study aims to examine the factors contributing to the shortage of productive teachers and Dayak language instructors at SMKS Al Fajar Parenggean, East Kotawaringin Regency, Central Kalimantan, and to analyze the implementation of Strategic Human Resource Management (SHRM) strategies in addressing these challenges. The research employed a qualitative descriptive approach using a case study method. Data were collected through in-depth interviews, participatory observations, and documentation involving school principals, productive teachers, Dapodik operators, and alumni who were potential teacher candidates. The findings indicate that teacher shortages are primarily caused by educators migrating to government institutions through ASN and PPPK recruitment programs, limitations in the national education database system (DAPODIK), and the shortage of certified teachers for the Dayak language as a local content subject. To address these issues, the school implemented SHRM-based strategies, including adaptive strategic planning, recruiting local alumni with relevant competencies, collaborative teaching practices, and integrating digital initiatives to support learning and institutional promotion. The study concludes that SHRM provides an adaptive framework that enables rural vocational schools to maintain learning continuity and strengthen institutional resilience despite structural limitations in human resource availability.

Keywords: Strategic Human Resource Management; Teacher Shortage; Vocational Education; Rural Education.



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1. Introduction

The shortage of educators in private schools cannot be viewed solely as a traditional problem resulting from limited financial resources. This phenomenon is also closely linked to national policies related to the recruitment of the State

Civil Apparatus (ASN) and Government Employees with Work Agreements (PPPK), which have encouraged the migration of teachers from private schools to public institutions (Victorynie et al., 2024). In the context of rural education, teacher shortages are influenced not only by limited budget allocations but also by geographical conditions, accessibility challenges, and disparities in educators' welfare. International studies further reinforce this issue, indicating that limited housing facilities and the high cost of living in remote areas are major barriers to the equitable distribution and retention of teaching staff (Medlin et al., 2024). Similar conditions are found in Central Kalimantan, where educators in private schools face structural constraints, including limited educational infrastructure and inadequate work-support facilities. These conditions place additional pressure on the sustainability of vocational education, which heavily depends on the availability of productive teachers, as observed at SMKS Al Fajar Parenggean in East Kotawaringin Regency.

The school faces a dual challenge: a limited number of agricultural educators and the declining interest of younger generations in the agribusiness sector. This phenomenon is closely related to social perceptions that tend to view agribusiness merely as an economic activity rather than as part of sustainable agricultural development. Research by Prayoga et al. (2020) indicates that many students have a limited understanding of agribusiness concepts and their relationship to food security and sustainable development. At the beginning of 2025, SMKS Al Fajar Parenggean experienced a significant decline in the number of productive teachers in the agricultural sector. Two educators moved to government institutions, leaving only one active teacher responsible for productive learning activities. This situation reflects the low teacher retention in private schools and aligns with previous studies that identify teacher shortages as a significant global challenge, particularly in vocational education. The shortage of educators not only reduces the quality of learning but also weakens innovation and threatens the sustainability of vocational programs oriented toward local agribusiness development.

In addition to this challenge, the Central Kalimantan Education Office (2024) introduced a policy requiring the teaching of the Dayak language in all educational institutions, as outlined in Decree No. 421/3565/DISDIK/IX/2024 of the Head of the Education Office. This policy aims to preserve regional languages and cultural values (Angraeni & Petikasari, 2024). However, its implementation has not been optimal due to the limited number of teachers with certification in the Dayak language. This situation highlights a gap between cultural preservation policies and the availability of qualified human resources to implement them effectively. In this context, the application of Strategic Human Resource Management (SHRM) becomes highly relevant as an institutional strategy to strengthen human resource management in a more systematic and strategic manner. SHRM plays a critical role in integrating organizational strategies with adaptive and long-term human resource management policies (Thompson-Lee et al., 2025). This approach emphasizes visionary leadership, stakeholder collaboration, and the continuous development of teacher competencies through sustainable learning systems.

This study aims to identify the factors contributing to the shortage of educators at SMKS Al Fajar Parenggean and to analyze the school's recruitment strategies to address these challenges through a locally based approach. Furthermore, the study examines how the school adapts independently by utilizing human resources available within the surrounding community. The novelty of this research lies in its approach, which links teacher recruitment strategies to local potential to promote sustainability and preserve local wisdom in vocational education. While previous studies on teacher shortages have primarily focused on national policies, welfare disparities, and employment status, this research centers on local perspectives. The findings are expected to contribute conceptually to the development of human resource management models in vocational schools and to provide practical solutions for regions facing similar challenges, particularly in the context of community-based agribusiness education.

2. Materials and Methods

This study was conducted at SMKS Al Fajar Parenggean, located in East Kotawaringin Regency, Central Kalimantan Province, Indonesia. The study focuses on human resource management strategies used to address the shortage of productive teachers in the agricultural field and local content teachers for the Dayak language. A descriptive, qualitative approach with a case study method was employed to obtain an in-depth, contextual understanding of human resource management practices within the school. The research participants included individuals directly involved in the school's human resource management system, namely the school principal, productive teachers, Dapodik operators, and alumni who serve or are expected to serve as productive teachers and Dayak language instructors. Data were collected through in-depth interviews, participatory observations, and documentation analysis. The use of these three data collection techniques aimed to obtain a comprehensive empirical understanding of the dynamics of planning, recruitment, and human resource development within the school environment. The data analysis process followed the interactive model proposed by Miles and Huberman (2014), which consists of three main stages: data reduction, data display, and conclusion drawing and verification. The analysis was conducted iteratively to ensure consistency and depth in interpreting the field data. To enhance the validity of the findings, source triangulation and theoretical triangulation were applied, as suggested by Sugiyono (2021). These procedures were undertaken to ensure the credibility and reliability of the results, allowing the findings to be scientifically accountable.

3. Results and Discussion

3.1. Factors that Cause the Teacher Shortage at SMKS Al Fajar Parenggean

The results of interviews with the school principal and productive teachers indicate that the shortage of educators at SMKS Al Fajar Parenggean is influenced by several key factors. One of the dominant causes is the migration of teachers to government institutions through the State Civil Apparatus (ASN) and Government Employees with Work Agreements (PPPK) recruitment programs. This situation reflects not only the limited human resources available in private schools but also the indirect consequences of national policies that have not fully considered the sustainability of educators in the private education sector. As a result, the school has experienced a reduction in active teaching staff, particularly in the agricultural vocational field, as well as difficulties in fulfilling the requirement for local content teachers for the Dayak language. Utamy et al. (2023) support these findings by explaining that weaknesses in human resource management practices in vocational schools often occur in areas such as teacher placement and educator welfare. At SMKS Al Fajar Parenggean, the lack of robust institutional policies for human resource development has further exacerbated the shortage of productive teachers. Therefore, the teacher shortage cannot be attributed solely to external factors such as the ASN and PPPK recruitment programs, but is also related to internal challenges, including limited strategic planning and the sustainability of human resource management at the school level.

Furthermore, the migration of teachers to government institutions is strongly influenced by the welfare gap between public and private school teachers. Studies by Kirana (2025) and Victorynie et al. (2024) confirm that disparities in economic benefits, employment status, and career security often motivate teachers to move from private to public educational institutions, which offer better financial stability and long-term career prospects. Over time, this disparity leads to an unequal distribution of educators and weakens private schools' competitiveness in retaining qualified human resources. To better illustrate the main factors contributing to the teacher shortage at SMKS Al Fajar Parenggean, Table 1 summarizes the key issues identified during field interviews.

Table 1. Factors Causing the Teacher Shortage at SMKS Al Fajar Parenggean

Key Factors	Description	Impact on Schools
Migration of teachers to government agencies	Two productive teachers moved to public institutions after passing the ASN/PPPK recruitment selection.	Reduction in agricultural vocational teachers and increased teaching workload for remaining staff.
Limitations of the Dapodik system	Honorary teachers who are not registered in the national education database (Dapodik) for at least two years cannot be officially recognized.	Teachers do not receive government benefits, leading to unstable employment status and low retention.
Lack of certified teachers in the Dayak language	Implementation of a new policy requiring the teaching of the Dayak language as local content in Central Kalimantan.	The absence of certified teachers results in suboptimal implementation of the Dayak language curriculum.

Source: Interview Data (2025)

The findings summarized in Table 1 indicate that the shortage of teachers at SMKS Al Fajar Parenggean is not caused by a single factor but rather by a combination of policy-related, institutional, and local resource constraints. These interconnected factors collectively influence the school's ability to recruit and retain qualified teachers. The first factor concerns the migration of teachers to government institutions via the ASN and PPPK recruitment pathways. This movement results in a significant reduction in the number of productive teachers, particularly in the agricultural vocational program. Such migration reflects a shift of potential human resources from private schools to public institutions, largely driven by greater job stability, improved welfare benefits, and clearer career advancement opportunities. The second factor concerns the limitations of the Basic Education Data System (Dapodik). Honorary teachers who are not officially registered in the system for at least two years are not formally recognized within the national education database. Consequently, these teachers are unable to access government incentives or professional development opportunities, resulting in unstable employment conditions. This situation negatively affects teacher motivation and contributes to a higher turnover rate within the school.

The third factor concerns the limited availability of certified teachers who can teach the Dayak language. Although the local government has introduced policies requiring the inclusion of the Dayak language in the local content curriculum, schools face difficulties in implementing them due to a shortage of qualified instructors. This challenge highlights the gap between regional cultural preservation policies and the availability of competent educational human resources to deliver such programs effectively. These findings are consistent with the study of Lindqvist and Gidlund (2025), which emphasizes that disparities in employment status, limited job security, and insufficient professional

development opportunities are among the primary factors contributing to low teacher retention in schools. In this regard, the shortage of productive teachers in private vocational schools should be understood not merely as an individual or isolated issue but as a structural and systemic problem. It involves multiple dimensions, including national policy frameworks, educational governance systems, and the availability of qualified human resources at the local level.

3.2. Implementation of Strategic Human Resource Management (SHRM) in the Management of Productive Teachers and Local Content

To address the complexity of the teacher shortage problem, the implementation of the Strategic Human Resource Management (SHRM) approach is highly relevant, as it enables integrating institutional policies with adaptive human resource management strategies. Through SHRM implementation, vocational schools can maintain learning continuity, strengthen teacher retention, and promote institutional independence in managing educational human resources. Efforts to overcome the shortage of productive agricultural teachers and local content instructors can therefore be pursued through the application of SHRM within the institutional framework of SMKS Al Fajar Parenggean. The SHRM approach allows the school to align its organizational strategies with the available human resources while adapting to the local context. Table 2 illustrates the relationship between SHRM elements and their practical implementation within the school.

Table 2. Implementation of SHRM in Managing Teacher Shortages at SMKS Al Fajar Parenggean

SHRM Elements	Context of Implementation in Schools
Strategic Planning	The school develops adaptive strategies to address teacher shortages resulting from educators migrating to government institutions and limitations in the Dapodik system. Planning includes redistributing teaching responsibilities and identifying potential local recruitment sources.
Talent Management	The school recruits alumni from the Agribusiness of Food Crops and Horticulture (ATPH) program who possess agricultural competencies and familiarity with the Dayak language to fulfill the needs for productive teachers and local content instructors.
Leadership Development	The vice principal for curriculum also serves as the program head, ensuring continuity of learning activities and strengthening coordination across academic departments.
Organizational Design	The school promotes cross-disciplinary collaboration. For example, biology teachers assist in implementing field-based agricultural practice sessions to support productive learning.
Performance Management	The school conducts periodic performance evaluations of newly recruited teachers and assesses the effectiveness of cross-departmental collaboration at the end of each semester.

Source: Interview data (2025), processed by researchers.

Table 2 shows that implementing the five SHRM elements demonstrates strong integration between institutional strategies and adaptive human resource management practices. Each element represents management initiatives tailored to the specific needs of vocational schools in rural areas. In line with Masruri (2025), SHRM functions as a dynamic system that supports the sustainability and adaptability of educational institutions. Through this approach, schools can align educational policies with the evolving demand for teachers in both agricultural vocational programs and local content subjects. The adaptive strategy implemented by SMKS Al Fajar Parenggean enables the school to maintain its educational functions while not neglecting the cultural values that underpin the learning process. This finding is consistent with Saputra et al. (2022), who emphasize that the effectiveness of educational institution management depends largely on the school's ability to accurately map teacher competencies and to provide services that align with student needs and the surrounding learning environment.

One key aspect of SHRM implementation at the school is a recruitment strategy based on local talent. This strategy aligns with the principles of talent management described by Masruri et al. (2025), which emphasize optimizing the talent development cycle through continuous mentoring and competency development. By recruiting alumni from the Agribusiness of Food Crops and Horticulture (ATPH) program, the school utilizes local human resources who already possess relevant practical knowledge and familiarity with the local socio-cultural context. This approach not only supports the empowerment of local human resources but also contributes to the preservation of local wisdom and cultural identity within the school environment. Although some recruited alumni hold academic backgrounds such as a Bachelor's degree in Economic Education, their competencies can be integrated with agribusiness practices, thereby creating synergy between economic knowledge and agricultural vocational education. These findings are consistent with those of Zhang et al. (2022), who emphasize that cultural and linguistic competencies are important determinants of the successful implementation of local content-based education. Teachers who understand the community's cultural context are better able to deliver learning materials that are relevant to students' social identities and local realities.

The role of the vice principal in coordinating academic activities and teacher development also reflects the application of adaptive leadership, as described by Siliņa-Jasjukeviča et al. (2025). Adaptive leadership plays a crucial role in maintaining teacher motivation and organizational performance, especially in resource-constrained environments. Effective leadership ensures that available human resources are managed efficiently while maintaining a collaborative working environment. Strengthening the governance of vocational agricultural schools also requires developing human resource capacity and fostering collaborative leadership practices. A case study of an Adiwiyata agricultural school shows that the success of agribusiness education management is strongly influenced by leadership commitment, consistent implementation of environmental policies, and synergy among internal and external stakeholders (Hidayat, 2019). Such collaborative strategies enable vocational schools to produce graduates who are competitive while remaining environmentally conscious.

Astutiningsih et al. (2024) further emphasize that SHRM is an integrative approach that aligns human resource management practices with the organization's overall strategy. In the context of vocational education, this approach supports the development of a more structured, consistent, and sustainable system for managing teachers and educational personnel. Similarly, Harliansyah (2022) highlights the importance of HR strategies based on SWOT analysis, including competency-based recruitment and continuous training, which can be adapted by SMKS Al Fajar Parenggean to strengthen the implementation of locally oriented SHRM practices. Flexible and collaborative organizational structures, as described by Saputra et al. (2022), Ismi et al. (2024), and Dewantoro (2022), also play an important role in strengthening cross-disciplinary cooperation in vocational education. This flexibility facilitates more effective coordination between academic and administrative units. For instance, collaboration between biology teachers and agricultural vocational teachers allows practical learning activities to be implemented more efficiently. Since biology subjects in agricultural vocational schools have both theoretical and practical relevance, such collaboration reduces the teaching burden on productive teachers while maintaining the quality of practical learning.

Furthermore, implementing continuous performance evaluation, as suggested by Thompson-Lee et al. (2025), helps maintain the quality of human resources and ensure the effectiveness of sustainable learning processes. Through periodic evaluation and monitoring, the school can identify strengths and weaknesses in its HR management practices and continuously improve the quality of teaching and learning activities. Thus, the implementation of SHRM at SMKS Al Fajar Parenggean not only strengthens the school's institutional resilience but also promotes the development of an innovative, participatory, and adaptive human resource management system. This system plays an essential role in ensuring the sustainability of vocational education while improving the quality of agricultural education that is responsive to local community needs.

3.3. Strengthening Digitalization and Adaptive Leadership

As a tangible effort to strengthen digital literacy in the vocational education environment, SMKS Al Fajar Parenggean launched a dedicated Instagram account for the Agribusiness of Food Crops and Horticulture (ATPH) Expertise Program. This account serves as a platform for publishing students' agricultural practice activities and as a promotional medium to attract prospective students. The use of social media demonstrates the school's ability to adapt to developments in information technology and public communication needs in the digital era, while simultaneously strengthening the institution's image as an innovative vocational school that is open to change (Setiawati et al., 2024).

The digitalization of agricultural practice activities implemented by the ATPH program represents an important strategy in building the school's institutional branding within the agribusiness sector. Each upload documenting students' agricultural practices serves not only as a publication tool but also as a platform for students to express their creativity and showcase their work and innovations. Through this approach, the school aims to foster students' confidence while increasing public recognition of graduates' competencies in modern and sustainable agriculture (Masnawati et al., 2022). Documentation of these activities is illustrated in Figure 1, which shows how social media is used effectively to support contextual learning in the field.

Figure 1 displays that the use of social media in the ATPH program represents an initial step toward implementing the Living Laboratory concept in vocational education. Through this strategy, the school integrates real-world learning practices with digital innovation, enabling learning activities to extend beyond the classroom and reach a broader public. These findings are consistent with the study by Pranita et al. (2025), which emphasizes that the transformation of vocational education requires collaboration between digitalization, cross-sector collaboration, and experiential learning as the foundation for building a sustainable educational ecosystem. Digitalization initiatives through social media management also have a strategic impact on improving teachers' digital competencies. Through content planning, information editing, and evaluation of public communication, teachers are directly involved in digital content creation and management. This indicates that digital literacy development at SMKS Al Fajar Parenggean is not only targeted at students but also contributes to strengthening teacher professionalism.

These findings are consistent with Wahyudi (2025), who emphasizes that improving educators' digital literacy requires continuous training, technology-based mentoring, and strengthening online learning communities to foster sustainable educational innovation in the era of Industry 4.0. In terms of leadership, school principals play a central role

in fostering an organizational culture that is adaptive and participatory toward change. The leadership approach implemented at SMKS Al Fajar Parenggean reflects the characteristics of adaptive leadership, in which strategic decisions are oriented not only toward short-term outcomes but also toward building trust, loyalty, and work motivation among teachers despite limited resources (Siliņa-Jasjukeviča et al., 2025). This leadership practice aligns with the findings of Efendi et al. (2023), who report that implementing discipline, motivation, and consistent reward systems can significantly improve teacher professionalism and maintain stable performance among educators in vocational schools.

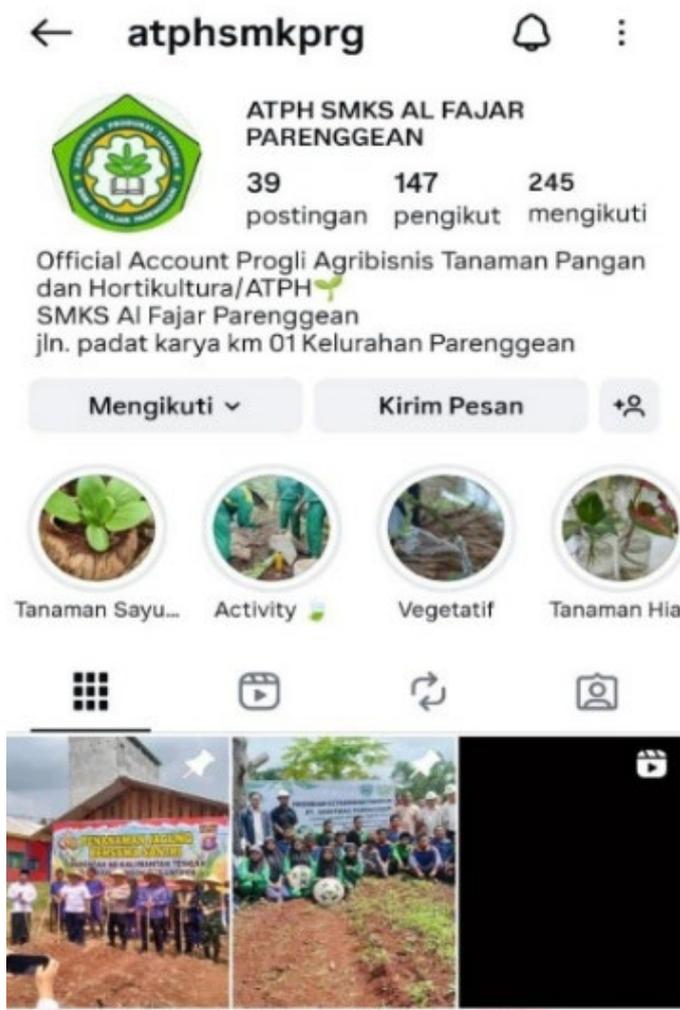


Figure 1. Instagram View of the Agribusiness of Food Crops and Horticulture (ATPH) Expertise Program of SMKS Al Fajar Parenggean

Furthermore, this study's results reinforce Ismi et al.'s (2024) perspective, highlighting the important role of community-based educational institutions in maintaining regional social and economic sustainability, particularly in rural areas. In such contexts, the success of private schools largely depends on the ability of institutional management to strengthen governance structures and build collaborative support from multiple stakeholders. Similarly, Dewantoro (2022) emphasizes that collaboration across institutions and sectors is a key factor in maintaining the performance of educational institutions while strengthening the role of vocational schools in the development of locally based agribusiness. Through digitalization initiatives, adaptive leadership practices, and institutional collaboration, SMKS Al Fajar Parenggean demonstrates its potential as a competitive, contextually relevant, and development-oriented model of vocational education.

4. Conclusions

This study examined the factors contributing to the shortage of educators at SMKS Al Fajar Parenggean and analyzed how the school addressed these challenges through the implementation of Strategic Human Resource Management (SHRM). The findings reveal that the shortage of teachers in rural vocational schools is not merely an internal institutional issue but rather a structural problem influenced by multiple factors, including national education

policies, limitations within the educational management system, and the scarcity of locally qualified human resources. The migration of teachers to government institutions through the ASN and PPPK recruitment programs significantly reduces the number of productive teachers in private schools. In addition, administrative limitations within the national education database system (Dapodik) create uncertainty for honorary teachers, affecting their welfare and employment stability. Another major challenge is the limited availability of certified teachers who can teach local content subjects, such as the Dayak language, as required by regional education policy.

To address these challenges, SMKS Al Fajar Parenggean implemented several SHRM-based strategies, including adaptive strategic planning, local talent recruitment, collaborative organizational design, leadership development, and continuous performance evaluation. The recruitment of alumni with relevant agribusiness competencies and familiarity with local cultural contexts demonstrates how local talent can be leveraged as an effective solution to human resource shortages. In addition, integrating digital initiatives, such as using social media to document and promote agricultural learning activities, strengthens institutional branding and supports the development of digital literacy among students and teachers. Thus, the findings suggest that implementing SHRM enables vocational schools in rural areas to maintain educational continuity despite resource constraints. By integrating strategic planning, local talent development, adaptive leadership, and digital innovation, schools can strengthen institutional resilience and improve the sustainability of vocational education programs that are closely linked to local community development.

4.1. Research Limitations

Despite providing valuable insights into human resource management strategies in rural vocational education, this study has several limitations. First, the research used a qualitative case study approach focusing on a single vocational school. As a result, the findings may not fully represent the conditions of other vocational schools in different regions with varying institutional and socio-economic contexts. Second, the study primarily relied on interview data and observational evidence from internal stakeholders, including school management and teachers. Future studies could expand the scope by incorporating perspectives from additional stakeholders such as local government authorities, education policymakers, and industry partners to provide a more comprehensive understanding of the issue. Third, the research focused mainly on human resource management strategies within the school environment and did not quantitatively measure the long-term impact of SHRM implementation on teacher retention, student outcomes, or institutional performance. Further research employing mixed-method or longitudinal approaches would be valuable in evaluating the effectiveness of these strategies over time.

4.2. Policy Implications for Theory and Practice

4.2.1. Theoretical Implications

This study contributes to the development of Strategic Human Resource Management (SHRM) theory in the context of vocational education, particularly in rural, resource-constrained environments. While previous studies on teacher shortages often emphasize national policy frameworks or welfare disparities, this research highlights the importance of integrating local resource-based strategies within HR management models. The findings demonstrate that SHRM can serve as a dynamic framework that integrates institutional strategy, local talent development, and adaptive leadership to address structural challenges within educational organizations. By linking SHRM practices to the use of local human capital and cultural competencies, the study extends theoretical understanding of how HR strategies can support sustainable educational development in rural communities.

4.2.2. Practical and Policy Implications

From a practical perspective, the findings provide several recommendations for educational institutions and policymakers. First, vocational schools should adopt SHRM-based management practices that emphasize strategic planning, collaborative organizational structures, and continuous professional development for teachers. Such approaches can help schools adapt to teacher shortages and maintain the quality of vocational education programs. Second, local governments and education authorities should expand training and certification programs for local content teachers, particularly for regional languages and culturally relevant subjects. Strengthening teacher training initiatives would help bridge the gap between regional education policies and the availability of qualified educators. Third, improvements to the Dapodik administrative system are necessary to ensure that honorary teachers in private schools receive appropriate recognition, professional development opportunities, and welfare support. Such reforms could improve teacher retention and reduce educator migration from private to public schools. Fourth, schools should continue to integrate digital technologies and social media platforms into their educational and promotional activities. Digitalization can enhance institutional visibility, strengthen students' learning experiences, and improve educators' digital competencies. Finally, stronger collaboration among schools, local communities, and industry stakeholders is essential to developing community-based vocational education models, particularly in agribusiness. Such partnerships

can help align vocational training with local economic development and strengthen the sustainability of rural education systems.

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