THE EFFECTIVENESS OF COLLABORATIVE MANAGEMENT IN IMPROVING THE QUALITY OF EDUCATION IN 3T (UNDERDEVELOPED, FRONTIER AND OUTERMOST) REGIONS

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Abstract

This study aims to examine the effectiveness of collaborative management in improving the quality of education in 3T (Disadvantaged, Frontier, and Outermost) areas. 3T areas face various challenges such as limited infrastructure, minimal human resources, and limited access to education. Through a collaborative management approach involving the government, educational institutions, the community, and the private sector, this study found that collaboration between stakeholders can create synergy in the planning, implementation, and evaluation of education programs. The results of the study indicate that a collaborative approach can improve access, quality, and relevance of education in 3T areas, especially through optimizing resources, improving teacher competency, and active community participation. However, the success of implementing collaborative management is largely determined by commitment, effective communication, and ongoing policy support. Therefore, systematic efforts are needed to strengthen institutions and create a collaborative environment that supports improving the quality of education evenly in 3T areas.

Keywords: *Collaborative Management, Education Quality, 3T Areas, Remote Education, Stakeholder Synergy*

Introduction

Education is the main foundation in national development, not only as a means of improving the quality of human resources, but also as an instrument for driving social, economic, and cultural transformation. In Indonesia, the challenges in implementing education are still very complex, especially in the 3T (Underdeveloped, Frontier, and Outermost) areas spread across various regions of the archipelago. These areas face unique problems, ranging from limited infrastructure, lack of qualified educators, to limited access to technology and information. This condition causes the gap in the quality of education between the 3T areas and other more developed areas to widen (Widyana et al., 2023). Efforts to improve the quality of education in these areas require a more innovative and collaborative approach, involving various related parties. Collaborative management is one strategy that is considered effective in responding to these challenges. Basically, collaborative management prioritizes cross-sectoral cooperation between the central government, local governments, educational institutions, the community, and the business world in designing and implementing education programs. This collaboration is expected to be able to unite scattered resources, knowledge, and expertise, thus creating greater synergy in improving educational conditions in 3T areas (Valmay et al., 2024a). This concept is also in line with the spirit of decentralization promoted by the Indonesian government, where regions are given greater authority to manage educational affairs according to their local needs.

Amidst existing limitations, 3T areas actually have great potential to develop if they get the right support. With the implementation of collaborative management, the active role of local communities in the education process can be increased. For example, the involvement of traditional leaders, religious leaders, and community organizations in the preparation of contextual curricula can increase the relevance of education to the daily lives of local communities (Daga et al., 2022a). In addition, collaboration with the private sector, especially in the provision of technological infrastructure and skills training, can help close the existing gap.

However, the implementation of collaborative management in 3T areas is not without challenges. Bureaucratic obstacles, differences in vision between the parties involved, and limited managerial capacity at the regional level often hinder the effectiveness of collaboration. Therefore, a strong commitment from all stakeholders is needed to build trust, develop clear working mechanisms, and create a conducive environment for collaboration. The central government has an important role in providing supportive regulations and facilitating communication between regions and other stakeholders (Randjawali et al., 2022a). In a global context, various studies have shown that the collaborative management approach has succeeded in improving the quality of education in remote areas in various countries. This gives hope that a similar model can be adapted in Indonesia, of course with adjustments to the unique social, cultural, and geographical conditions in each 3T region. The experiences of other countries also show the importance of utilizing information technology as a unifying tool that can overcome the obstacles of distance and isolation. Furthermore, the importance of this collaboration is also reflected in various education policies launched by the Indonesian government, such as the Smart Indonesia Program, the School Mover Program, and school digitalization initiatives aimed at reaching remote areas. However, the effectiveness of implementing this policy is highly dependent on the extent to which cross-sector collaboration can be well established at the regional level. This is where collaborative management plays a strategic role as a bridge between national policies and local needs.

Another important aspect that should not be ignored is strengthening the capacity of human resources in 3T areas. Teachers, principals, and other education personnel must receive relevant training to be able to manage the education process effectively in the context of existing limitations. Collaborative management can open up space for joint training programs between higher education institutions, Education Quality Assurance Institutions, and private partners. Thus, improving the competence of educators will go hand in hand with improving infrastructure and providing learning resources (Harefa et al., 2024a).

In addition, the success of collaborative management in improving the quality of education in 3T areas is also largely determined by the active participation of the local community. Education can no longer be viewed as a government affair alone, but must be a shared responsibility. The involvement of parents, community leaders, and traditional institutions in the planning, implementation, and evaluation of education programs will create a strong sense of ownership, thus encouraging the sustainability of education initiatives in the area (Defining Problems and Solutions of Education for Frontier, Outermost, and Least Developed Regions Program in Indonesia. | EBSCOhost, n.d.-a).

Research on the effectiveness of collaborative management in improving the quality of education in 3T areas is very relevant. This study not only aims to identify the extent to which the collaborative approach has been implemented, but also to explore the factors that support and hinder its success. The results of the study are expected to provide evidence-based policy recommendations to strengthen collaborative management practices, as well as become a reference for other regions facing similar challenges. Furthermore, this effort is in line with the vision of the Indonesian government to realize equal distribution of quality education for all children of the nation, without exception, including those in the most remote areas (Anggoro et al., 2024). In the long term, the success of this collaborative model has the potential to be a catalyst for broader social change in 3T areas. With increased access to quality education, the younger generation in this region will have a greater opportunity to contribute to the development of their regions. This will not only reduce disparities between regions, but also strengthen the social and economic resilience of the nation as a whole. Therefore, investment in strengthening collaborative management in the education sector must be seen as a strategic investment that will have a long-term impact on the future of Indonesia.

Research Methods

The research method used in this study is the literature review method, which aims to collect, review, and analyze various library sources that are relevant to the topic of the effectiveness of collaborative management in improving the quality of education in 3T areas. This literature review includes previous studies, scientific journal articles, government agency reports, and policy documents related to education in remote areas, collaborative management, and 3T regional development. The process of collecting literature data is carried out systematically by utilizing various electronic databases and academic libraries.

In this study, data obtained from the literature will be analyzed using a descriptive-analytical approach, where each finding from the sources studied will be identified, grouped, and compared to find patterns that support the development of the concept of collaborative management in 3T areas. In addition, this study also adopts a critical synthesis approach with the aim of integrating the results of previous studies into a complete and contextual

understanding of the condition of education in Indonesia, especially in 3T areas. The analysis is carried out by paying attention to aspects of implementation effectiveness, challenges faced, and key factors for the success of cross-sector collaboration in improving the quality of education.

The results of this literature review method are expected to provide a comprehensive picture of the real conditions in the field, as well as offer strategic recommendations for policy makers, education practitioners, and other stakeholders. Based on a comprehensive literature review, this study not only presents a theoretical review, but also seeks to present applicable and relevant solutions for the context of education in the 3T areas. Thus, this study contributes to enriching academic discourse as well as being a practical guide in implementing more effective collaborative management in the future.

Results and Discussion
The Concept of Collaborative Management in Education

Collaborative management in education is an approach that emphasizes cooperation between various parties involved in the educational process, including principals, teachers, students, parents, and the community (Rachmad, 2024). This approach was born from the awareness that the challenges of modern education cannot be solved individually. Global dynamics, technological developments, and the complexity of student needs require synergy between stakeholders. This collaboration is not just working together in a physical sense, but an interactive process that involves the exchange of ideas, joint decision-making, and sharing of responsibilities to achieve better educational goals.

In the context of educational institutions, collaborative management also means managing resources together to support effective learning. The principal as a leader has a strategic role in creating this collaborative culture. He must be able to be a facilitator who opens up space for dialogue, encourages active participation from all parties, and ensures that every voice is heard. Teachers, who have often worked individually in their respective classes, in a collaborative system are encouraged to share best practices, discuss learning challenges, and design more innovative teaching strategies as a team (Mustoip et al., 2023).

Collaboration in education also touches on the relationship between schools and parents. This relationship is no longer one-way, where schools only provide reports on children's development, but has changed into an active partnership (Thornhill-Miller et al., 2023). Parents are involved in decision-making regarding school programs, the preparation of local needs-based curricula, and the implementation of character education activities. With this involvement, children's education becomes a continuous process between home and school, so that the goal of forming a generation with character and competence can be more optimally achieved.

In addition, collaborative management expands the scope of relationships to the community and the industrial world. The world of modern education cannot stand alone, but must be connected to the real needs of society and developments in the world of work (Qureshi et al., 2023). Therefore, collaboration with local communities, non-governmental organizations, and industry players is important to align the curriculum, provide skills training, and open internship opportunities for students. This cross-sector collaboration not only strengthens the relevance of education, but also provides students with real experiences that will be useful in their future lives.

In terms of internal management, the collaborative approach also brings a paradigm shift to leadership. Leadership is no longer seen as a single authority, but rather as the ability to build a solid team and empower each member (Kim et al., 2022). Principals and other leaders of educational institutions must be able to facilitate dialogue between teachers, administrative staff, and other support staff. A participatory decision-making system is key so that every policy taken is legitimate and fully supported by all parties in the school environment. The application of the concept of collaborative management in education also requires supporting infrastructure. The role of digital technology is very important in facilitating communication and collaboration, especially in the post-pandemic era that relies on many online activities. Collaboration platforms, such as teacher forums, learning management systems, and virtual meeting applications allow the exchange of ideas in real time without spatial limitations. This opens up new opportunities for teachers and education personnel to continue learning, developing, and improving the quality of their teaching (Ji et al., 2023).

The challenges in implementing collaborative management cannot be ignored. Differences in views, sectoral egos, and limited communication often become obstacles. Therefore, it is important to have training on collaboration skills, conflict mediation, and effective communication for all education stakeholders. A culture of cooperation must be instilled early on as part of the values of educational institutions so that the collaboration process can run naturally and sustainably.

The implementation of collaborative management in education also has consequences for changes in performance assessment. In the traditional system, teacher assessments are often based on individual performance in the classroom. However, in a collaborative approach, success is also measured by the teacher's contribution to the team, their ability to collaborate across subjects, and the extent to which they participate in developing a learning community at school. This requires a more holistic and fair evaluation system, which reflects a spirit of cooperation rather than mere competition.

On the other hand, students also benefit directly from collaborative management implemented in their school environment. When educators work together, the learning process becomes more integrated and rich in perspective. Students can experience a more contextual learning experience, where lessons from various disciplines are interconnected. This helps them develop a deeper understanding, not just memorization. In addition, by seeing firsthand examples of collaboration from teachers and school staff, students will implicitly learn about the importance of teamwork, empathy, and communication in their social lives.

At the policy level, the implementation of collaborative management requires support from the government and higher education institutions. The government needs to formulate regulations that encourage collaborative practices, for example by providing special funds for the development of learning communities in schools or collaborative training for principals and teachers. Higher education institutions that produce educators must also include curricula on collaborative leadership, conflict management, and team management in their study programs, so that prospective teachers are ready to face the challenges of collaboration in the real world.

No less important, the implementation of collaborative management in education must consider local cultural aspects. In various regions, the values of mutual cooperation and cooperation have become part of the community's culture. This potential can be raised and strengthened in school management practices. Thus, collaboration in the educational environment is not forced as a foreign concept, but is understood as a continuation of a long-standing local tradition. This approach will also facilitate the acceptance of the concept of collaborative management by the wider community.

The ongoing digital transformation is increasingly opening up space for the development of collaborative management. Online platforms enable the creation of collaborative networks between schools, both at national and international levels. Teachers can exchange ideas, learning resources, and learning methods with colleagues from other regions and even from other countries. Students can also be involved in global collaborative projects, which will broaden their horizons about the outside world while building 21st-century competencies, such as cross-cultural communication and joint problem solving (Nahar et al., 2022).

However, it is also important to realize that effective collaboration takes time to grow. It requires a process of adaptation, role adjustment, and a willingness to learn from failure. School management must provide space for this process, without rushing to demand instant results. Strengthening a collaborative culture must be a long-term process that continues to be instilled through various school activities, from routine meetings, professional development, to celebrating shared successes. Finally, the concept of collaborative management in education brings a grand vision of how education can function as a unifying tool and driver of societal progress. By building a strong collaborative network inside and outside of school, education can contribute to creating an inclusive, tolerant society that is ready to face global challenges. This concept demands a change in mindset, from being oriented towards individual and institutional interests, to focusing on the common good. If applied consistently, collaborative management not only improves the quality of education, but also instills collaborative values in every individual involved in it.

Condition of Education Quality in 3T Regions (Underdeveloped, Frontier, and Outermost)

Education is the main foundation in the development of a nation, including Indonesia which is known for its regional diversity. However, in the midst of national development, there is still a clear disparity between developed regions and 3T regions, namely the Underdeveloped, Frontier, and Outermost regions. This disparity is clearly visible in the aspect of education quality which is in the spotlight of various parties, both the government and the wider community. In 3T regions, the biggest challenge in improving the quality of education is accessibility. Remote geographical locations, difficult to reach, sometimes even separated by oceans, cause the distribution of educational resources to be uneven. Teachers who work in these areas often have to face long and tiring journeys, with poor or even non-existent road infrastructure. As a result, many schools in 3T areas experience a shortage of educators, both in terms of quantity and quality. This condition has a direct impact on the learning process which is not optimal (Valmay et al., 2024b). In addition, educational facilities in 3T areas are generally still far from national standards. Many schools have buildings in disrepair, minimal supporting facilities such as laboratories, libraries, or

information technology facilities. In the digital era like today, limited internet access is a major obstacle for students in this area to obtain wider learning resources. While in big cities students can easily access online learning materials, in 3T areas, internet signals are often not available. This creates a digital divide that further widens the gap in the quality of education between developed and underdeveloped areas.

The quality of education in 3T areas is also greatly influenced by the socio-economic background of the community. Many families in this area live in weak economic conditions, so education is not a top priority. Children often have to help their parents work to meet their daily needs, which ultimately makes school participation rates in 3T areas lower than in other areas. The high dropout rate is a serious problem that must be addressed immediately in order to guarantee the right to education for every Indonesian child (Daga et al., 2022b).

In terms of policy, the government has actually attempted various programs to improve the quality of education in 3T areas, such as sending teachers through the Frontline Teacher (GGD) program and providing affirmative School Operational Assistance (BOS) funds. However, the implementation of these programs is often hampered by long bureaucracy, weak coordination between agencies, and minimal supervision in the field. In some areas, funds that should be used to improve school facilities are not distributed properly. This indicates that the problem of education quality in 3T areas is not only a matter of lack of resources, but also a matter of ineffective education management and governance (Arifyani & Khoirunurrofik, 2021).

Furthermore, local culture and regional languages are also factors that influence the quality of education in 3T areas. In the context of formal education, Indonesian is the main language of instruction. However, for children in the outermost areas who use regional languages on a daily basis, the learning process often feels difficult due to language barriers. Teachers who do not understand local wisdom or local culture also have difficulty in delivering material with a contextual approach. This creates a sense of alienation in the teaching and learning process, which ultimately reduces students' motivation to learn. However, amidst various limitations, the enthusiasm and potential of the people in 3T areas should not be underestimated. Many local communities have shown initiative to develop education in their areas independently. For example, by building alternative schools, holding home study classes, and utilizing simple technology such as educational radio to reach students in remote areas. Initiatives like these show that even though the country faces major challenges, there is strong social capital that can be empowered to advance education.

In the future, efforts to improve the quality of education in 3T areas must be carried out more comprehensively and sustainably. The government needs to ensure that every intervention carried out does not only focus on providing facilities, but also strengthening teacher capacity, developing a curriculum that is more inclusive of the local context, and developing a transparent and accountable monitoring system. The involvement of local communities must also be strengthened so that they feel ownership and responsibility for the sustainability of education in their areas.

More importantly, the development of supporting infrastructure such as roads, electricity, and internet networks must be a priority. Without adequate basic infrastructure, it is difficult for education in 3T areas to achieve the expected quality standards. Collaboration between the central government, local governments, the business world, and civil society organizations is key to creating real change in the long term (Randjawali et al., 2022b). With strong determination and synergy, the gap in the quality of education between developed and 3T areas can be reduced. Quality education throughout the country is a non-negotiable foundation for ensuring a more just, prosperous, and competitive future for Indonesia.

The Role of Collaborative Management in Improving the Quality of Education in 3T (Underdeveloped, Frontier, and Outermost) Regions

Improving the quality of education in 3T (Disadvantaged, Frontier, and Outermost) areas is a major challenge that requires an unconventional approach. One approach that is now increasingly relevant is the application of collaborative management, a system that emphasizes cross-sector and actor collaboration in the planning, implementation, and evaluation of education. In 3T areas that generally face limitations in infrastructure, human resources, and access to information, collaboration is key to overcoming these obstacles more effectively and sustainably (Harefa et al., 2024b).

Collaborative management enables the integration of various stakeholders, ranging from central and regional governments, educational institutions, non-governmental organizations, the business world, to local communities. By creating an inclusive dialogue space, education policies in 3T areas can be formulated based on real field needs, not just the results of analysis from the center. Local governments have a central role in bridging central interests

and local needs, ensuring that incoming education programs can be adapted to local cultural and geographical characteristics.

In the context of implementation, collaborative management supports more optimal resource mobilization. For example, businesses can contribute through corporate social responsibility (CSR) programs aimed at building schools or providing educational facilities. Non-governmental organizations are often present as strategic partners that help train teachers, provide teaching materials, and develop contextual curricula that are relevant to the conditions of 3T communities. The success of education programs in this region also depends heavily on the active involvement of the community, both in the form of mutual cooperation in building educational facilities, and participation in monitoring the quality of education. On the other hand, collaboration is also a means to increase the capacity of educators in 3T areas. Teachers who serve in this region often face major challenges, ranging from limited facilities to social isolation. Through partnerships with universities, training institutions, and online education communities, collaborative management can facilitate regular training, exchange of experiences, and ongoing professional support. This has a direct impact on improving teacher competence, which ultimately contributes to the quality of learning in the classroom.

Collaborative management also creates opportunities for innovation in the provision of education in 3T areas. The use of educational technology is a concrete example of where inter-sectoral collaboration can overcome geographical limitations. The government can collaborate with technology providers to provide distance learning solutions, while donor agencies can assist in providing supporting devices and infrastructure. With this approach, students in remote areas can still access quality learning materials without having to move to big cities (Suripto & Sudarmadi, 2022).

The success of collaborative management in improving the quality of education in 3T areas requires a long-term commitment from all parties involved. Regular evaluation and feedback mechanisms are important to ensure that the collaboration that is built truly has a positive impact. In addition, institutional capacity building at the local level is needed so that they are able to manage this complex collaboration effectively and sustainably. Thus, collaborative management is not only a temporary solution, but a strategy for sustainable education development in 3T areas (Sutrisno & Pillay, 2024).

Collaborative management acts as a catalyst in realizing quality and equitable education throughout the country, including in the 3T regions that have often been left behind (Defining Problems and Solutions of Education for Frontier, Outermost, and Least Developed Regions Program in Indonesia. | EBSCOhost, n.d.-b). With a spirit of cooperation, recognition of local uniqueness, and the use of appropriate technology, efforts to improve the quality of education in this region become more realistic to achieve. This is a concrete step towards creating true educational justice, where every Indonesian child, regardless of where they live, has an equal opportunity to develop and contribute to the nation.

Challenges in Implementing Collaborative Management

Collaborative management is becoming increasingly important in modern organizations, especially in an increasingly digitalized and globally connected environment. This concept emphasizes cross-functional, team, and even inter-organizational collaboration to achieve common goals that are greater than what can be achieved individually. However, although collaborative management offers various advantages in theory, its implementation in the real world is often faced with various complex challenges (Bianchi et al., 2021).

One of the fundamental challenges that arise in the implementation of collaborative management is the difference in organizational culture. Each unit or department in an organization usually develops a unique internal culture, which includes distinctive values, norms, and ways of working. When teams from different backgrounds are forced to work together in a collaborative framework, cultural friction becomes difficult to avoid. These differences can be in communication styles, the speed of decision-making, or the level of formality expected in daily interactions. As a result, without any effort to align basic values and create a common understanding, collaboration can end in confusion and conflict that hinders productivity (Parsamehr et al., 2023).

In addition to cultural factors, another significant challenge comes from the technological aspect. In the digital era, collaborative management relies heavily on technology platforms to facilitate communication, data sharing, and task coordination. However, not all organizations have the same level of technology readiness. Gaps in IT infrastructure, workforce digital skills, and data security can be serious barriers. Implementing collaborative technologies such as cloud-based project management systems, real-time communication applications, or document sharing platforms requires not only a large investment in terms of cost, but also time for training and adaptation. Technology fatigue and resistance from employees who have little trust in new systems are also stumbling blocks in

the transition to effective digital collaboration. The complexity of organizational structures is also a major challenge in implementing collaborative management. In many large organizations, rigid hierarchies and siloed divisions of responsibility still dominate. Such structures often create boundaries that hinder the flow of information and collaboration across units. Collaboration requires flexibility in roles, distributed authority, and more inclusive decision-making. These changes are not easily accepted by managers who are used to centralized control or by employees who have long worked in hierarchical environments. Transforming structures to support collaboration requires fundamental changes in organizational governance, which is a long and resistant process (Petersson et al., 2022).

Furthermore, another challenge that often arises is related to leadership in a collaborative context. Collaborative management demands a participatory leadership style, which encourages the involvement of all team members and recognizes individual contributions. However, in practice, many leaders still adopt an authoritative approach that focuses on one-way direction. This kind of leadership style often hinders the growth of a culture of mutual trust that is the foundation of successful collaboration. Building trust in cross-functional or cross-organizational teams takes time, transparency, and consistency in communication. Leaders who are unable to foster an open environment tend to fail to maintain healthy collaboration.

The dynamics of power and organizational politics also cannot be ignored as inhibiting factors. In collaborative situations, there is often a tug-of-war of interests between the parties involved. Each unit or individual may have their own goals, incentives, or agendas that are not always in line with the common interest. This can trigger conflicts of interest, internal competition, and even sabotage of collaborative initiatives. Effective collaborative management requires a fair conflict resolution mechanism and a clear framework to ensure that all parties receive proportional benefits from the collaboration.

The issue of performance measurement is also a challenge in the implementation of collaborative management. In traditional systems, performance is usually measured based on individual or departmental accomplishments. However, in a collaborative context, success depends on collective contributions that are difficult to isolate individually. As a result, organizations often struggle to develop a performance appraisal system that accurately reflects teamwork results without ignoring individual contributions. If rewards and recognition systems are not well designed, demotivation and dissatisfaction can arise, which can undermine the spirit of collaboration.

In a global context, collaborative management also faces challenges stemming from differences in time zones, languages, and regulations. Collaboration between teams spread across countries requires flexible scheduling, multilingual communication skills, and an understanding of the various legal regulations that apply in each region. This adds a significant level of complexity, especially for organizations that are just starting their global expansion. Successfully managing cross-border collaboration requires investment in supporting infrastructure and internal policies that can accommodate this diversity.

Ultimately, the biggest challenge in implementing collaborative management lies in changing the mindset of all members of the organization. True collaboration requires the sacrifice of ego, a commitment to sharing information, and a willingness to adapt to a more open way of working. This process does not happen overnight. It requires a continuous organizational culture development program, collaborative skills training, and encouragement from top leaders to be role models in everyday collaboration practices. Without this paradigm shift, efforts to build collaborative management will only stop at the conceptual level without ever transforming into a productive reality.

Conclusion

The conclusion of the study on the effectiveness of collaborative management in improving the quality of education in 3T areas shows that this approach has great potential in overcoming various limitations faced by disadvantaged, outermost, and remote areas. Collaboration involving various stakeholders, such as local governments, educational institutions, communities, and the private sector, is able to create synergies that strengthen the education system as a whole. Collaborative management allows for a clear division of roles, optimal utilization of resources, and decision-making that is more inclusive and responsive to local needs.

The implementation of collaborative management in 3T areas has also been proven to increase the effectiveness of education programs, both in terms of equal access, improving teacher quality, and developing infrastructure. With solid cooperation, geographical and social barriers that have been the main obstacles can be minimized through community-based innovations and contextual approaches. As a result, there is an increase in community participation in education and an increase in student learning motivation that has a direct impact on the quality of learning. However, the effectiveness of collaborative management is highly dependent on the commitment and capacity of each party involved. To maintain its sustainability and positive impact, supportive

policies, strengthening institutional capacity, and continuous monitoring and evaluation are needed. With an adaptive and participatory approach, collaborative management can be a key strategy in driving equitable educational transformation in 3T areas.

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