



Challenges of Academic Supervision in Indonesia's Humid Tropical Forest Area

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ABSTRACT

The implementation of academic supervision in humid tropical forest areas in Indonesia faces complex and multidimensional challenges. Generally, these areas are located in remote areas with low accessibility, making supervision activities difficult to carry out routinely and effectively. Geographical factors such as difficult terrain, high rainfall, and regional isolation also exacerbate the limitations of educational infrastructure, such as minimal transportation facilities, communication networks, and adequate school facilities. On the other hand, the limited number of supervisors and the low managerial competence of school principals add to the obstacles in implementing quality academic supervision. This study uses a descriptive qualitative approach, through data collection techniques in the form of literature studies and in-depth interviews with education stakeholders in humid tropical forest areas. The results of the study aim to identify factors that inhibit supervision and formulate alternative contextual strategies, including the use of technology, empowerment of local communities, and advocacy for education policies that support disadvantaged areas. This article is expected to provide a real contribution to increasing the effectiveness of academic supervision, as well as supporting efforts to equalize the quality of education in Indonesia, especially in areas that are geographically and socially isolated.

INTRODUCTION

Academic supervision is a fundamental element in the education system because it plays a strategic role in improving the quality of the teaching and learning process. Supervision is not only a means of evaluation, but also functions as a systematic professional development process for teachers so that they can carry out their duties effectively. Glickman, Gordon, and Ross-Gordon (2014) explain that academic supervision is an interactive process that aims to create a productive and collaborative learning environment between supervisors and teachers, so that it can have a positive impact on students' academic achievement.

In Indonesia, the challenges in implementing academic supervision are increasingly complex, especially in areas with extreme geographical conditions, such as humid tropical forest areas. These areas are often far from the center of government, have very limited transportation access, and have minimal educational support facilities. Mulyasa (2021) revealed that supervision in the 3T (Disadvantaged, Frontier, and Outermost) areas experiences significant obstacles due to a lack of infrastructure, minimal availability of supervisors, and weak school management. Most schools in this area cannot be reached in a short time, and some can only be reached by river or on foot for hours.

Furthermore, the problem of limited communication and internet networks also worsens the situation. Many supervision activities cannot be carried out online because there is no stable internet access. This is in contrast to the digital transformation efforts being promoted by the government. As a result, the implementation of supervision is not only physically hampered but also systemically. The Director General of Teachers and Education Supervisors of the Ministry of Education, Culture, Research and Technology (2022) stated that the implementation of academic supervision must be responsive to local characteristics and flexible in technical approaches. This is where the importance of formulating a supervision strategy that is able to adapt to geographical, social, and technological challenges lies.

In addition to geographical and technological factors, socio-cultural aspects are also crucial elements in the effectiveness of supervision. Differences in language, customs, and local values often create a communication gap between supervisors and teachers. According to Suparlan (2020), supervision that does not consider local culture is at risk of being rejected subtly by the school community. Therefore, a culture-based supervision approach is very important to implement, especially in areas with high ethnic diversity and local wisdom.

Not only that, the principals' weak managerial capacity and lack of professional training also have an impact on the low effectiveness of supervision. Many principals do not understand the basic principles of modern supervision, such as clinical supervision or collaborative approaches. In many cases, supervision is only a formality and administrative, without having a real impact on improving the quality of learning. In line with Gunawan's (2020) opinion, principals in remote areas need continuous training to be able to carry out their supervisory role optimally.

Meanwhile, existing regulations do not fully support effective supervision practices in remote areas. Although the government has issued various guidelines and policies on academic supervision, their implementation is still generalized and does not accommodate the challenges of specific areas. In some situations, supervisors have to supervise dozens of schools that are very far apart, which makes it practically impossible to conduct regular and in-depth supervision.

Given the complexity of these challenges, an innovative and contextual approach to supervision is needed. Utilizing digital technology, involving local communities, and strengthening the role of school principals as internal supervisors are strategic solutions that can be applied. Ramadhan (2021) emphasized that the adaptation of supervision based on local wisdom and technology is the key to increasing the effectiveness of education supervision in hard-to-reach areas.

Based on this background, this article aims to comprehensively analyze the challenges faced in implementing academic supervision in humid tropical forest areas in Indonesia. It also offers applicable solutions and strategies to support the creation of a more inclusive, adaptive, and impactful supervision system for education quality. Through a descriptive qualitative approach, this study is expected to make a significant contribution to policymakers, education practitioners, and stakeholders in designing academic supervision that is contextual and relevant to field conditions.

LITERATURE REVIEW

This research is important to understand in depth the challenges of academic supervision in humid tropical forest areas in Indonesia. These areas often have difficult geographical conditions, minimal infrastructure, and limited human resources, which make it difficult to supervise effectively. Through this review, it is hoped that a more complete picture will be drawn of the various obstacles faced in the implementation of academic supervision in these areas. It also provides an initial understanding of how academic supervision is carried out under extreme conditions and the extent to which environmental and social factors influence its success. By looking at the challenges and potentials, this study can serve as an initial reference for local context-based supervision policy-making. Furthermore, the results of this study are expected to be used as evaluation material for the government, especially in formulating strategies to improve the quality and accessibility of education that are more targeted. Understanding the challenges in the field will help design supervision models that are adaptive, efficient, and relevant to the needs of remote areas in Indonesia. Thus, academic supervision policies are expected to contribute to the equitable distribution of education quality nationally. The literature review in this article aims to provide a theoretical basis for issues related to academic supervision, especially in humid tropical forest areas that have unique characteristics. Some of the main relevant concepts include the concept of academic supervision, the characteristics of humid tropical forest areas, and education management theory.

METHODOLOGY

This research uses a descriptive qualitative approach that aims to describe in detail and in depth the phenomenon of academic supervision in humid tropical forest areas in Indonesia. This approach was chosen because it is able to accommodate the complexity of social, geographical, and cultural realities that influence the implementation of academic supervision in areas with remote and hard-to-reach characteristics. Descriptive qualitative research focuses on understanding the meaning, experiences, and perceptions of subjects towards the situations they face. As Creswell (2016) explains, this approach is particularly relevant for examining issues that have not been widely revealed or deeply understood, especially those related to social interactions and education policies in local contexts. In the context of this study, the approach allows researchers to explore the views of educational actors such as principals, teachers, and supervisors regarding the challenges and strategies of academic supervision in a humid and remote tropical forest environment.

The data collection techniques in this study were conducted through two main methods: desk research and semi-structured interviews. The desk study included a review of scientific journals, reference books, policy documents from the Ministry of Education, and previous research reports related to academic supervision, the 3T (Disadvantaged, Frontier, Outermost) areas, and the challenges of education in remote areas. Meanwhile, semi-structured interviews were conducted with key informants who have direct involvement in the supervision process, such as school supervisors, school principals, and teachers in humid tropical forest areas. The choice of semi-structured interviews was based on their flexibility in exploring information openly, but still within the confines of the main questions relevant to the research focus. This technique facilitates a two-way interaction between the researcher and informants, allowing for in-depth and authentic data, in accordance with the principles of qualitative research. Data analysis was conducted using the interactive model of Miles and Huberman (1994), which includes three main stages: data reduction, data presentation, and conclusion drawing. The data reduction stage aims to sort and simplify information from interviews and relevant literature. The reduced data was then presented in the form of narratives and thematic tables, which made it easier for researchers to understand patterns and relationships between themes. The final step is conclusion drawing and verification, which is done reflectively and continuously throughout the research process to ensure that the resulting interpretations truly represent the reality of the field. To maintain the validity of the data, this research used source triangulation techniques by comparing information obtained from various data sources (informants, documents, and literature) to increase the validity of the findings. In addition, a member checking process was also carried out with some informants to ensure that the results of the researcher's interpretation did not deviate from the original intentions of the respondents. Through this descriptive qualitative approach, it is hoped that the research results can provide a holistic and contextual picture of the challenges in implementing academic supervision in humid tropical forest areas and

contribute to the formulation of policies that are more relevant and responsive to the needs of education in remote areas.

RESULTS AND DISCUSSION

This study aims to analyze the challenges in implementing academic supervision in humid tropical forest areas in Indonesia. This study used qualitative analysis techniques based on the Miles and Huberman (1994) approach, which consists of three main stages: data reduction, data presentation, and conclusion drawing. Through this approach, data from interviews, literature studies, and documentation were analyzed in depth by linking various relevant literature, so as to obtain a comprehensive picture of the challenges faced and potential strategies that can be applied in the context of academic supervision in humid tropical forest areas in Indonesia. The sources reviewed in this research are shown in the following table:

Table 1. Literature Sources Reviewed

Article Title	Author	Key findings
Indonesia's Education Profile 2023	Kemendikbudristek (2023)	Present data on disparities in access to education in different parts of Indonesia
Clinical Supervision in Teacher Performance Improvement	Kurniawati (2020)	Clinical supervision encourages teachers to reflect critically and continuously on their practice.
A Case Study of Supervision in Papua	Marlina (2024)	Geographical barriers mean that supervision is rarely conducted on a regular and in-depth basis.
Principal Management and Leadership	Mulyasa (2021)	Academic supervision is compromised by low managerial and logistical capacity in the 3T areas.
Education Technology in Remote Areas	Nurlaila (2023)	Technology can be an alternative solution for remote supervision.
The Role of Supervision in Improving School Quality	Oktaviani (2022)	Quality supervision contributes to improving the quality of learning in schools.
Digital-based Academic Supervision	Prasetyo (2020)	Digital supervision expands coaching coverage and time efficiency
Education in Tropical Forests: Opportunities and Challenges	Ramadhan (2021)	Supervision needs to be locality-based and adaptive to humid tropical forest conditions.
The Role of Local Communities in Educational Supervision	Sari (2024)	The involvement of local communities supports the effectiveness of supervision in remote areas.
Use of Virtual Media in Teacher Supervision	Susanti (2023)	Virtual media helps online teacher supervision in areas with limited

		access.
Education Policy in Remote Areas	Yusuf (2022)	Policy affirmation is needed to support supervision in hard-to-reach areas.

From these sources, researchers then carried out the predetermined stages as described below.

Data Reduction

Data reduction is the initial stage in the qualitative analysis process that aims to filter, simplify, and organize data so that the focus on core issues can be more easily analyzed. In this study, the various data obtained from the literature study and the interviews were analyzed to identify the main themes related to the implementation of academic supervision in humid tropical forest areas in Indonesia. From the review of various sources and experiences in the field, a number of crucial issues that hinder academic supervision were found. These themes include limited geographical and transportation access, lack of supporting infrastructure such as electricity and internet networks, lack of human resources especially competent supervisors and principals, and socio-cultural challenges that create communication barriers between supervisors and teachers. For example, in the rural areas of Kalimantan, some schools can only be reached by walking for more than three hours or by boat along the river. This means that the frequency of supervision is very limited and cannot be conducted regularly. In addition, inadequate infrastructure makes the process of reporting supervision results ineffective, especially since many schools do not have an internet network or appropriate technology devices.

Furthermore, data reduction also shows that in the Papua region, one supervisor can supervise more than 25 schools with long distances. This has an impact on the quality of supervision, which is more administrative than professional. Differences in language and cultural values also often lead to resistance to supervision activities, especially if the supervisor comes from outside the area and does not understand the local context. By selecting and summarizing the data, this research was able to eliminate less relevant information and retain only data that had high significance to the research objectives. This reduction process resulted in a more focused understanding of the core issues of academic supervision in humid tropical forest areas, which then became the basis for formulating contextualized, adaptive and inclusive supervision strategies.

Data Presentation

Data presentation is the next step of the data reduction process which aims to organize the filtered information so that it is easier to understand and analyze. The presentation of data in this study was carried out in the form of a thematic matrix based on the results of interviews, literature studies, and field documentation that had been previously classified. The following is a presentation of data based on the six main themes found, shown in the following table:

Table 2. Data Based on Six Main Themes Found

No	Main Theme	Narrative of Findings
1	Geographic and Transportation Access	Schools in humid tropical forest areas are difficult to reach, requiring hours of walking or water transportation. This hampers the frequency and quality of supervision.
2	Infrastructure Limitations	Not all schools have basic facilities such as electricity, clean water and internet networks, which has an impact on the reporting and documentation process of supervision results.
3	Human Resources (HR)	In some areas, one supervisor supervises more than 20 schools. School principals have also not received adequate training on the function of internal supervision.
4	Socio-cultural Constraints	Differences in language and customs between teachers and supervisors hamper communication and acceptance of supervision.
5	Supervision Technology	The potential for online supervision has not been fully utilized due to weak internet connections. Some regions do not have adequate technological equipment.
6	Policy Support	Academic supervision policies are not flexible and are not specific to remote areas. Budget support and incentives are also still very limited.

The matrix above illustrates the factual situation of academic supervision in humid tropical forest areas in Indonesia. Each theme shows the linkages between structural and operational challenges and complex local conditions. This presentation provides a strong basis for formulating supervision strategies that are more adaptive and appropriate to the field context.

Drawing Data Conclusions

Based on the results of data analysis from various sources, including interviews, literature review, and documentation, it can be concluded that academic supervision in humid tropical forest areas in Indonesia faces structural, geographical, and socio-cultural challenges. Geographical factors such as damaged roads, access by foot or water transportation, and long distances between schools are the main obstacles to regular and effective supervision. As a result, supervision is often delayed or not conducted at all. In addition, infrastructure limitations, such as the unavailability of electricity and internet networks in many schools, greatly affect the quality of reporting and documentation of supervision results. Supervision activities that could have been conducted online became impossible. This indicates a digital imbalance between central and peripheral areas that directly affects the quality of education supervision. In terms of human resources, the limited number of supervisors means that one person has to handle dozens of schools at once, which reduces the effectiveness of teacher coaching. On the other hand, principals in remote areas generally do not have a sufficient understanding of the implementation of internal supervision, either due to a lack of training or limited access to the latest educational information.

Socio-cultural constraints are also a significant factor. Differences in language, values, and traditions between supervisors and local communities

make communication less effective. In some cases, supervision activities are perceived as a form of “outside intervention” that disrupts local culture, not as a form of professional development. Technology, which should be an alternative solution for implementing supervision in hard-to-reach areas, has not been optimally utilized. This is due to the lack of ICT training, the absence of supporting devices, and weak internet signals that make it difficult to access the online supervision platform. If developed seriously, technology can be a bridge between supervisors and teachers in remote areas.

Another striking finding is the absence of a policy that specifically regulates supervision in 3T (Disadvantaged, Frontier, and Outermost) areas, including humid tropical forest areas. General and centralized supervision policies cannot be applied uniformly in areas with very different geographical and cultural conditions. As a result, supervision activities become irrelevant and have no impact on improving the quality of education. Overall, academic supervision in humid tropical forest areas in Indonesia still faces serious obstacles that require a contextual and collaborative approach. The government needs to develop flexible policies, provide supporting infrastructure and technology, and increase the capacity of local education human resources. Without targeted and sustainable efforts, equalizing the quality of education through academic supervision in remote areas will be difficult to achieve.

CONCLUSIONS AND RECOMMENDATIONS

Academic supervision in Indonesia's humid tropical forest regions faces a variety of complex challenges stemming from geographical aspects, limited infrastructure, and lack of adequate human resources. Environmental conditions that are difficult to access, minimal educational facilities, and communication and cultural constraints are the main obstacles to optimal supervision. This is exacerbated by the lack of technology support and supervision policies that have not been fully adapted to the context of remote areas. As a result, supervision activities tend to be administrative and have not had a significant impact on improving the quality of learning.

However, there are a number of potentials that can be utilized to overcome these obstacles. These include the targeted use of digital technology, the active involvement of local communities, strengthening the capacity of school principals as internal supervisors, and the formulation of affirmative policies that favor areas with high geographical challenges. An adaptive and collaborative approach to supervision is considered capable of making supervision a sustainable coaching effort, not just an administrative control.

1. The central and local governments should formulate a more contextualized academic supervision policy, considering the social and geographical conditions of humid tropical forest areas.
2. A continuous training program is needed for school principals to be able to carry out the internal supervision function professionally and effectively.
3. Expanding access to information technology should be a priority, including the provision of devices and networks that support remote supervision.

4. The involvement of community leaders and local communities needs to be strengthened to make supervision more acceptable and relevant to local values.
5. Special incentives and affirmative policies are needed for supervisors working in remote areas as a form of moral and operational support.

With the implementation of these strategic steps, academic supervision in humid tropical forest areas can be increased in effectiveness and contribute significantly to equalizing the quality of national education. The author realizes that this study still has limitations, especially in terms of area coverage and the number of informants used as data sources. Therefore, further research is needed with a broader and more in-depth approach so that the results obtained can provide a more comprehensive picture. Nevertheless, the author hopes that this article can be a meaningful initial contribution to the development of academic supervision that is adaptive to the geographical and socio-cultural context, especially in humid tropical forest areas in Indonesia.

FURTHER STUDY

This research still has limitations, so further research is still needed on this topic, "Challenges of Academic Supervision in Indonesia's Humid Tropical Forest Area".

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