

School Leadership and Risk Management in Far-Flung Areas: Enhancing Safety and Learning Continuity in Geographically Isolated School

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ABSTRACT

Geographically isolated schools face significant challenges that threaten learner safety and disrupt the continuity of education. Candua Rajah Ambag Elementary School, located in Barangay Tenok, Mangudadatu, Maguindanao del Sur, exemplifies such contexts, with limited infrastructure, exposure to natural hazards, and socio-economic and security vulnerabilities. This study examined the level of school leadership practices and risk management strategies, and their relationship, in promoting safe and continuous learning in a far-flung setting. Employing a quantitative descriptive–correlational design, the study involved the school head, ten regular teachers, and five Islamic Studies–Arabic Language teachers using total enumeration sampling. Data were collected through a validated researcher-developed questionnaire and analyzed using descriptive statistics, Pearson correlation, and mediation analysis. Results indicated high levels of school leadership, particularly in stakeholder engagement and visionary leadership, alongside strong risk management practices, with safety protocols rated highest. A significant positive relationship ($r = 0.71$, $p = 0.001$) was found between leadership practices and risk management strategies, demonstrating that effective leadership enhances preparedness, safety, and learning continuity. Findings highlight the critical role of school leaders in fostering resilient, safe, and sustainable education in far-flung communities.

Keywords: School leadership, risk management, geographically isolated schools, learning continuity, safety, disaster preparedness.

1. Introduction

School leadership and risk management are critical in ensuring the safety, resilience, and continuity of learning, particularly in geographically isolated and disadvantaged areas [1]. Candua Rajah Ambag Elementary School, located in Barangay Tenok, Mangudadatu, Maguindanao del Sur, exemplifies the challenges faced by far-flung communities in the Philippines [6]. Its remote location, limited infrastructure, and exposure to natural, socio-economic, and security-related risks present unique obstacles for the school's leaders. In such settings, school leaders are not only educators but also planners, crisis managers, and community collaborators, tasked with balancing the pursuit of quality education with the imperative of protecting learners, staff, and school facilities [2]. Schools in geographically isolated areas frequently face risks that disrupt regular learning activities, including extreme weather events, like flooding and heavy rainfall, inadequate transportation networks, limited access to communication technologies, and socio-political tensions [7]. In Maguindanao del Sur, a region historically affected by socio-economic marginalization these factors often intensify vulnerabilities, making it particularly challenging for schools like Candua Rajah Ambag Elementary School to maintain consistent learning schedules and ensure the safety of students. In this context, Effective school leadership requires proactive and adaptive risk management strategies that address both immediate hazards and long-term resilience [4]. Leaders must engage in thorough risk assessments, inclusive planning, and strong community partnerships to create safe learning environments [16] and prepare the school community for various contingencies. This includes developing emergency response protocols, fostering collaborations with local stakeholders such as barangay officials, parents, and community volunteers, and integrating disaster risk reduction measures into school policies and the curriculum

[5]. Ensuring safety and learning continuity in isolated schools also involves strengthening everyday operations through capacity building, resource mobilization, and infrastructure improvements [20]. When school leaders are equipped with the knowledge, tools, and collaborative networks necessary for effective risk management, they can better guarantee uninterrupted learning while safeguarding the well-being of students and staff [9].

This study seeks to examine how school leadership and risk management practices can be enhanced in geographically isolated areas to improve safety outcomes and sustain learning continuity [16]. By focusing on the specific context of Candua Rajah Ambag Elementary School in Barangay Tenok, Mangudadatu, Maguindanao del Sur, this research aims to illuminate both the challenges faced by school leaders and the strategies that contribute to resilient, inclusive, and sustainable education in far-flung communities.

Statement of the Problem

1. What is the level of school leadership practices in geographically isolated schools in terms of:
 - 1.1 Instructional leadership,
 - 1.2 Organizational management,
 - 1.3 Stakeholder engagement, and
 - 1.4 Decision-making during emergencies?
2. What is the extent of risk management practices implemented by school leaders in far-flung areas in terms of:
 - 2.1 Disaster preparedness,
 - 2.2 Safety and security measures,
 - 2.3 Crisis response, and
 - 2.4 Learning continuity strategies?
3. Is there a significant relationship between the level of school leadership practices and the extent of risk management practices implemented by school leaders in geographically isolated schools?
4. Based on the findings of the study, what intervention measures or action plans may be recommended to improve school leadership and risk management in far-flung and geographically isolated schools?

2. METHODOLOGY

2.1 Research Design

This study employed a quantitative descriptive–correlational research design, which is well-suited to examining both the existing conditions and the relationships among key variables [3]. Within a real-world school context. This design enabled the researcher to systematically describe the prevailing school leadership practices and risk management strategies, while simultaneously determining the extent of their relationships with school safety and learning continuity in a geographically isolated setting. The correlational aspect of the design allowed for the analysis of how school leadership practices are associated with the implementation of risk management strategies, and how these strategies influence the safety of learners and the sustainability of instructional delivery. Notably, this approach does not involve the manipulation of variables, thereby ensuring that the findings authentically reflect the natural dynamics of leadership and risk management as they occur in far-flung school environments.

2.2 Respondents and Sampling Technique

The respondents of this study consisted of the School Head, eight (10) regular teachers, and three (5) Islamic Studies Arabic Language (ISAL) teachers of Candua Rajah Ambag Elementary School [6] during the Academic Year 2025–2026. These individuals were directly involved in school leadership functions, the implementation of risk management strategies, and the delivery of instructional services, making them appropriate and reliable sources of data for the study.

A total enumeration sampling technique was employed, wherein all available teaching personnel and the School Head [20] were included as respondents. This approach was deemed appropriate given the small population size and ensured comprehensive representation of perspectives related to school leadership practices and risk management strategies. By involving all personnel actively engaged in school operations and safety management, the study was able to capture a holistic and accurate picture of leadership dynamics and risk management practices within the school context.

2.3 Research Instrument

The primary instrument for data collection in this study was a researcher-developed questionnaire, structured into four parts: the demographic profile of respondents, school leadership practices, risk management strategies, and

safety and learning continuity. A Likert scale [8] was used to measure respondents' level of agreement with each statement, allowing for the quantification of perceptions and practices.

To ensure content validity, the questionnaire was reviewed by experts in educational leadership, research, and disaster risk management. Their feedback and recommendations were carefully considered, and necessary revisions were incorporated to improve the clarity, relevance, and reliability of the instrument. This process ensured that the questionnaire could effectively capture the perspectives of school leaders, teachers, and personnel regarding leadership practices, risk management strategies, and measures taken to maintain safety and learning continuity in a geographically isolated school context.

2.4 Data Gathering Procedure

The data gathering process followed a systematic and transparent sequence, as illustrated in the waterfall chart. Prior to the conduct of the study, formal permission was secured from the Schools Division Office and the administration [7] of Candua Rajah Ambag Elementary School to ensure institutional approval and ethical compliance. Upon approval, the researcher finalized the research instrument after identifying the target respondents and ensuring that the questionnaire was aligned with the objectives of the study.

The validated survey questionnaires were then administered to the respondents, who were provided with sufficient time to carefully and accurately [8] answer each item. After completion, the questionnaires were retrieved and examined for completeness and consistency to ensure data reliability. The collected data were subsequently organized, tallied, and encoded in preparation for statistical analysis.

Throughout the data collection process, ethical standards such as informed consent, voluntary participation, and confidentiality of responses were strictly observed [2] to maintain the legitimacy and credibility of the study. Finally, the gathered data were tabulated, analyzed, and computed using appropriate statistical tools, enabling the researcher to generate valid and meaningful results that effectively addressed the research questions and objectives.

2.5 Statistical Treatment

After the data were gathered, the researcher employed appropriate descriptive and inferential statistical techniques to analyze the results. Descriptive statistics, including the mean, median, and standard deviation, were used to summarize and describe the overall responses of the participants. Frequency counts and percentages [9] were applied to present the demographic profiles of the respondents.

The weighted mean was utilized to determine the levels of school leadership practices, risk management strategies, school safety, and learning continuity. To examine the relationships among the study variables, the Pearson Product-Moment Correlation Coefficient was employed to determine the degree and direction of the association between school leadership practices and risk management strategies, as well as between risk management strategies and school safety and learning continuity [11].

The data collected from the survey questionnaire were analyzed using the appropriate descriptive and inferential statistics to answer the specific research questions of the study.

Descriptive statistics such as mean and standard deviation were employed to describe the Level of School Leadership Practices and the Level of Risk Management Strategies at Candua Rajah Ambag Elementary School. The mean scores were interpreted using a five-point Likert scale with equal interval ranges to provide a consistent and objective interpretation of results.

To interpret the mean scores, the following scale was adopted based on established quantitative research practices:

Table 1. Scale mean range and verbal interpretation.

Scale	Mean Range	Verbal Interpretation
5	4.50 – 5.00	Very High
4	3.50 – 4.49	High
3	2.50 – 3.49	Moderate
2	1.50 – 2.49	Low
1	1.00 – 1.49	Very Low

To understand how school leadership practices and risk management strategies were observed among respondents, descriptive statistics such as the mean and standard deviation were used to provide a clear snapshot of the data. To explore how these variables relate to each other, inferential statistics were applied. In particular, Pearson's product-moment correlation coefficient (r) was employed to measure the strength and direction of the relationship between

school leadership and risk management strategies, helping to reveal whether strong leadership is linked to more effective risk management in the school.

3. RESULT AND DISCUSSION

This chapter presents the results of the study on school leadership practices, risk management strategies, and their influence on safety and learning continuity in a geographically isolated setting, specifically Candua Rajah Ambag Elementary School, Barangay Tenok, Mangudadatu, Maguindanao del Sur.

School leadership practices were assessed using key indicators, including transformational leadership, decision-making during emergencies, stakeholder engagement, and resource mobilization. Respondents provided their ratings for each statement using a Likert scale, allowing for a systematic and quantifiable evaluation of leadership behaviors and practices. The findings in this chapter aim to provide a clear and detailed understanding of how leadership and risk management strategies operate in far-flung schools and how these practices affect the safety of learners and the continuity of learning in such challenging contexts.

3.1 Level of School Leadership Practices

Indicator	Mean	SD	Descriptive Interpretation
Visionary Leadership	4.21	4.21	Very High
Decision-Making During Emergencies	4.15	4.15	High
Stakeholder Engagement	4.30	4.30	Very High
Resource Mobilization	4.10	4.10	High
Overall Mean	4.19	4.19	High

The high overall level of school leadership practices ($\bar{x} = 4.19$) observed in this study is supported by related literature emphasizing the importance of effective leadership in geographically isolated schools [10]. And challenging school contexts. According to Leithwood, Harris, and Hopkins (2020), strong school leadership—particularly visionary leadership and stakeholder engagement is a key driver of school effectiveness, especially in disadvantaged and remote settings. The very high rating for stakeholder engagement ($\bar{x} = 4.30$) is consistent with the findings of Mutch (2021), who noted that collaboration with parents, community members, and local stakeholders strengthens school resilience and enhances the capacity of schools to manage risks and sustain operations during disruptions. Similarly, the very high level of visionary leadership ($\bar{x} = 4.21$) supports the assertion of Day and [15] (2021) that leaders who articulate clear goals and long-term direction are better able to navigate uncertainty and maintain stability in far-flung schools. Moreover, the high ratings for decision-making during emergencies and resource mobilization align with the study of [8], which found that school leaders in remote and high-risk areas must demonstrate timely decision-making and strategic use of limited resources to ensure school safety and continuity of learning. These related studies affirm that effective leadership practices are essential in geographically isolated schools, enabling leaders to respond proactively to challenges, mobilize support, and sustain educational delivery despite contextual constraints.

3.2 Level of Risk Management Strategies

Indicator	Mean	SD	Descriptive Interpretation
Risk Identification & Assessment	4.05	0.61	High
SDRRM Planning	4.18	0.58	High
Safety Protocols Implementation	4.25	0.55	Very High
Emergency Preparedness & Response	4.12	0.60	High
Flexible Learning Modalities	4.08	0.62	High
Overall Mean	4.14	0.59	High

The results indicate that the level of risk management practices in geographically isolated schools was generally high, as reflected by an overall mean of 4.14 with a relatively low standard deviation ($SD = 0.59$). This suggests that respondents consistently perceived the implementation of risk management measures as effective across the different indicators.

Among the indicators, Safety Protocols Implementation obtained the highest mean score ($\bar{x} = 4.25$, $SD = 0.55$) and was interpreted as very high, indicating that schools place strong emphasis on ensuring the safety of learners and personnel through established procedures and protective measures. SDRRM Planning ($\bar{x} = 4.18$, $SD = 0.58$) and Emergency Preparedness and Response ($\bar{x} = 4.12$, $SD = 0.60$) were both rated high, reflecting the schools' readiness to anticipate, plan for, and respond to potential hazards and emergency situations.

Similarly, Risk Identification and Assessment ($\bar{x} = 4.05$, $SD = 0.61$) and Flexible Learning Modalities ($\bar{x} = 4.08$, $SD = 0.62$) were also rated high, suggesting that schools are capable of recognizing potential risks and adapting instructional delivery to ensure learning continuity during disruptions. Overall, the findings demonstrate that geographically isolated schools have established sound risk management practices, although continuous improvement is necessary to further strengthen preparedness and resilience.

3.3 Relationship Between the Level of School Leadership Practices and Level of Risk Management Strategies

Variables	Mean	SD	r-value	p-value	Verbal interpretation
School Leadership Practices	4.19	0.58			
Level of Risk Management Strategies	4.14	0.59	0.71	0.001	Strong Positive Relationship

The table presents descriptive statistics and the results of a correlation analysis between School Leadership Practices and the Level of Risk Management Strategies based on sampled school. The mean scores indicate that, on average, schools rate their leadership practices (Mean = 4.19, $SD = 0.58$) and risk management strategies (Mean = 4.14, $SD = 0.59$) relatively high, suggesting that both constructs are generally well-observed among respondents.

The Pearson correlation coefficient ($r = 0.71$) shows a strong positive relationship between the two variables. This means that as the quality or effectiveness of school leadership practices increases, the level of risk management strategies implemented also tends to increase. The p-value of 0.001 is well below the conventional threshold of 0.05, indicating that this positive relationship is statistically significant and unlikely due to chance. In practical terms, schools with more effective leadership such as clear vision, stakeholder engagement, emergency decision-making, and resource mobilization also tend to implement stronger risk identification, safety planning, emergency preparedness, and other risk management measures. This reinforces the idea that leadership plays a central role in fostering safer, better-prepared, and more resilient school environments.

According to [9]. (2024), leadership practices and risk management are positively linked in educational settings. In their study involving administrators from multiple schools, they found that effective leadership practices correlated positively with risk management and school performance, with leadership contributing to stronger adoption of risk and safety strategies and enhancing overall school outcomes.

Additionally, a systematic review on leadership practices for safety in the education sector highlights that strong leadership is essential for establishing and communicating a safety vision, supporting professional capacity development, and leading with a safety orientation factor that align with greater implementation of safety and risk management measures in schools.

Summary of Findings

The findings of the study revealed that both school leadership practices and risk management strategies in geographically isolated schools were rated at a high level, with overall weighted means of 4.19 and 4.14, respectively. School leadership practices were particularly strong in terms of stakeholder engagement and visionary leadership, which obtained very high ratings, indicating effective collaboration and clear direction despite contextual challenges. Similarly, the implementation of safety protocols under risk management strategies received a very high rating [5], reflecting the school's strong commitment to ensuring learner and staff safety. The correlation analysis further revealed a strong positive relationship between school leadership practices and risk management strategies ($r = 0.71$) [9], indicating that effective leadership significantly contributes to the successful

implementation of risk management measures. Overall, the results highlight the critical role of strong school leadership in enhancing preparedness, safety, and learning continuity in geographically isolated school settings.

4. CONCLUSION

Based on the findings of the study, it is concluded that school leadership practices in geographically isolated schools are generally high, demonstrating that school heads and leadership teams are capable of providing effective, proactive, and responsive leadership [15] despite challenges related to distance, limited resources, and accessibility. Strong performance in visionary leadership and stakeholder engagement indicates that collaborative leadership and clear direction [10] are essential in sustaining school operations and promoting a safe learning environment in far-flung areas.

The study also concludes that the implementation of risk management strategies is high, particularly in the area of safety protocols, which reflects the school's preparedness in addressing potential hazards and disruptions [5]. Effective practices in risk identification, disaster planning, emergency response, and learning continuity further suggest that geographically isolated schools can maintain stability and continuity of instruction when guided by competent leadership.

Finally, the presence of a strong positive relationship between school leadership practices and risk management strategies confirms that effective leadership plays a crucial role in strengthening risk preparedness [9] and response mechanisms. As leadership practices improve, the implementation of risk management strategies likewise becomes more effective. Thus, strengthening school leadership capacities is essential to enhancing safety, resilience, and learning continuity in geographically isolated schools [2].

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