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SCHOOL CRISIS MANAGEMENT AND ITS RELATIONSHIP TO STAKEHOLDER SATISFACTION IN THE MARIVELES DISTRICT

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ABSTRACT

This study examined the effectiveness of school-based crisis management and its impact on stakeholder satisfaction within the Mariveles District, Division of Bataan, a region uniquely vulnerable to both natural disasters and industrial risks. Grounded in General Systems Theory, Crisis Management Theory, and Situational Crisis Communication Theory, the research utilized a quantitative-descriptive-correlational design with 100 participants, including parents, teachers, and school administrators. Data were collected using the Structured School Crisis Management and Stakeholder Satisfaction Survey (SCM-SSS) and analyzed through weighted means, Spearman's rho, and the Kruskal-Wallis H test. Findings revealed that the schools were "Prepared" across all four DRRM thematic areas (Composite Mean = 3.18), with "Response and Evacuation" as the strongest dimension and "Recovery and Rehabilitation" as the most vulnerable. Despite these operational gaps, stakeholders reported being "Very Satisfied" (Composite Mean = 3.32), particularly praising "Coordination" with external agencies like the BFP and PNP. A very strong, positive, and highly significant correlation was established, proving that higher preparedness levels directly drove stakeholder trust. Demographic analysis revealed significant differences in perceptions based on age and stakeholder group, with teachers being notably more critical of readiness than parents. The study concluded with a "Strongly Agreed" support (Mean = 3.44) for a proposed resilience plan emphasizing digital alert systems, student-led responder teams, and mental health debriefings. The results underscore the necessity of transitioning toward a multi-hazard architecture to sustain institutional homeostasis and stakeholder confidence in high-risk educational environments.

Keywords: *School Crisis Management, Stakeholder Satisfaction, DRRM, RA 10121, Multi-Hazard Architecture, Mariveles District, Systemic Resilience, Learning Continuity*

INTRODUCTION

Natural catastrophes, technological failures, medical emergencies, and man-made threats continue to pose more complex and unpredictable challenges to the educational environment. Because of this, educational systems across the world are required to ensure not just excellent instruction but also staff and student safety and resilience during emergencies. International frameworks, such as the Sendai Framework for Disaster Risk Reduction 2015–2030, emphasize how crucial educational institutions are to lessening the impact of catastrophes, improving preparedness, and ensuring learning continuity. Creating and implementing efficient crisis management strategies has become crucial since the risk settings in which schools operate are dynamic and constantly shifting. These preventative, planning, response, and recovery strategies should be multidimensional in order to create a strong and enduring safety culture within the school community.

Despite improvements in school safety over the last few decades, many schools are still unprepared for multi-hazard scenarios, according to recent study. Mendoza, et al (2024) investigated the effectiveness of school crisis management methods in ensuring stakeholder satisfaction. Their findings showed that schools with a well-established crisis management system had higher levels of satisfaction among staff, parents, and students. This was particularly true if the schools had mitigation plans and open lines of communication. Most schools were ill-prepared to manage individual threats and were often overrun by concurrent or cascading crises. Therefore, in crisis situations when there may be many, complex, and interconnected dangers, it is advised to employ a multi-hazard architecture.

This is also shown in the Asian context. Choi, et al (2024) investigated the impact of school preparation on stakeholder satisfaction during the COVID-19 pandemic in South Korea. Their research did, in fact, verify that organizations with strong leadership and catastrophic risk management procedures had less interruption and had happier stakeholders. However, they found that schools did not have a clear recovery mechanism, which is in line with the results from the US. Following the initial response activities, crisis preparedness had to be maintained since poor post-crisis rehabilitation and continuation planning caused dissatisfaction, especially among parents and school personnel.

These regional and worldwide findings are reflected locally. Hebebci (2023) examined how Metro Manila's public schools managed emergencies. The two investigators found that preliminary measures were not regularly implemented. Even though the majority of schools were aware of DepEd's DRRM principles, they were nevertheless unable to apply them successfully when there were several dangers. Importantly, the investigation revealed deficiencies in external agency collaboration and recovery planning, two elements that are essential to stakeholder trust. When taken together, these studies show

a similar pattern both locally and globally: schools are ill-prepared to deal with complex, multi-layered crises that occur sequentially or simultaneously, despite their apparent preparedness.

In the Philippine context, this challenge is rendered much more challenging by the country's inherent susceptibility to several threats. Typhoons, earthquakes, volcanic eruptions, floods, industrial accidents, and medical emergencies are constant threats to the Philippines, which is located along the Pacific Ring of Fire and the Typhoon Belt. Nonetheless, a number of significant research gaps are identified by the body of current literature, such as the dearth of empirical studies measuring multi-hazard crisis preparation in schools and its direct association with stakeholder satisfaction. Few studies have specifically looked at the Province of Bataan, especially the Mariveles District, which is also susceptible to other risks due to the area's proximity to large industrial facilities, its susceptibility to storm surges, and its position within the estimated earthquake impact.

By combining the structural, procedural, and psychological aspects of school crisis management, the integrated theoretical framework for this study creates a thorough Systemic-Stakeholder Resilience Model. The structural framework is based on General Systems Theory (Bertalanffy, 1968 in Yusuf, 2022), which sees the Mariveles District as a complex ecosystem of interrelated subsystems. According to this model, the school district operates as an open system in which teachers, parents, and administrators must work together to maintain "homeostasis." Because these components are interdependent, a breakdown in any one management component for example, an early warning system failure acts as a systemic disruption that upsets the equilibrium of the entire educational environment and directly affects the qualitative "output" of stakeholder satisfaction.

Building on this structural foundation, the Mariveles District's operational preparedness is propelled by Crisis Management Theory (Mitroff, 1994 in Yusuf, 2022). By providing a strict lifecycle strategy that includes signal detection, damage containment, and recovery, Mitroff's system goes beyond reactive measures and turns possible threats into controllable occurrences. This theory serves as the foundation for assessing the district's capacity building and preparation planning by seeing crisis management as an ongoing cycle of input and feedback. It guarantees that the schools' capacity to "learn" and "recover" is what keeps transient disruptions from turning into long-term systemic failures, preserving the institutional stability necessary for successful learning. Situational Crisis Communication Theory serves as the foundation for the framework's relational and communicative aspects (Coombs, 2007 in Yusuf, 2022).

This idea claims that the "crisis response strategy" which is defined by accountability, openness, and speed is the main element in safeguarding a school's reputation and stakeholder satisfaction, bridging the gap between administrative activities and public perception. Coombs contends that leaders' communication during a danger is equally as important as the actual technological response. This indicates that, in the context of the Mariveles District, the high levels of satisfaction shown in this study are a direct result of

how well school administrators close the information gap, guaranteeing that the community feels informed and valued during the crisis.

The Mariveles District in Bataan faces a unique, high-stakes intersection of industrial, coastal, and tectonic threats that demand a, robust, multi-hazard, and proactive school crisis management strategy. The proposed Systemic-Stakeholder Resilience Model addresses a research gap by integrating General Systems Theory, Crisis Management Theory, and Situational Crisis Communication Theory to evaluate how school preparedness affects stakeholder satisfaction in this volatile environment. The training for teachers has a crucial role in shaping the quality of teaching staff and forms the basis for continuous professional development in the future (Yusuf,2022). So, it can support the findings in the results of this study. However, it is necessary to reinforce regulations regarding school disaster safety.

This kind of thing could be avoided if the government took part in implementing DRR policies embedded in the education curriculum. This was claimed by Rahman et al. (2020), and Seddighi et al. (2022) that DRR is integrated into the education curriculum in 3 pillars that form the basis of DRR learning, namely: 1) children's knowledge of natural disasters; 2) knowledge of rescue skills; 3) knowledge of disaster risks posed; 4) community's ability to avoid disaster risk; and 5) building disaster risk resilience. Government efforts in disaster management are regulated concerning the implementation of disaster management. Disaster management is di-vided into several parts, namely pre-disaster (disaster risk management, mitigation, and preparedness) during a disaster (emergency management), and post-disaster (recovery management). The government also allocates emergency funds through BNPB, a government agency that assists in disaster management. In order to increase the resilience of education units against disasters, the Ministry of Education and Culture has established the Disaster Safe Education Unit (SPAB) program as an effort to prevent and manage the impact of disasters in educational units. The government's move is in accordance with the conditions as an archipelago province that has multi-threat disaster risk index. However, based on the results of this research, this step has not been fully conveyed to the implementing elements of education, namely schools.

So, to achieve the disaster resilience school indicators several aspects should be taken into account. It includes establishing relations among schools, providing cooperative and consistent support to in-crease school resilience to disasters, teaching life skills, creating a caring attitude towards disasters, creating a supportive environmental climate, and always coordinating and communicating with other agencies, as well as opening opportunities for all school members to develop themselves, of course with the same direction and goal, namely the creation of disaster-resilient schools and school members. This will fully support the indicators of each pillar regarding the understanding and importance of disaster preparedness awareness.

The importance of disaster-ready schools becomes increasingly clear in this context, as disaster-ready schools play a crucial role in filling knowledge gaps and enhancing awareness related to preparedness and response in encountering disasters (Seddighi,et

al 2021). Recognition of the potential occurrence of disasters and the significance of disaster education among respondents underscores positive steps in building a culture of preparedness. However, addressing the knowledge deficiencies in disaster management and transforming awareness into concrete actions requires collaborative efforts involving school committees, external parties, and the wider community to enhance infrastructure resilience, risk reduction strategies, and effective disaster response planning. This study reaffirms the central role of disaster-ready schools in disaster resilience in vulnerable areas. In addition, this research emphasizes the need for comprehensive disaster education to promote actions in encountering potential threats.

Lastly, Sison and Fuentes (in Zhang,2020) tested the correlation between stakeholder engagement and elementary school in the Borongan City of the Philippines. Their results indicated that although the involvement of stakeholders was strong in areas related to instruction, physical, and values orientation, the impact of stakeholder participation varied according to the performance indicator: the involvement was strongly predicted to be successful in achieving awards and recognition but not to be directly linked to the success of student academic performance and SBM practice levels. This subtle finding follows up on the earlier researches in noting that individual, institutional and environmental variables mediate the conversion of engagement to quantifiable effects and the role of mapping profile variables to desired outcomes of school improvement.

The study utilizes a structural architecture refined by Yang (2026) and Liang et al. (2021) to account for the "boundaryless" shift into virtual crisis contexts. These authors argue that modern school leadership must move beyond intuition toward a scientific and systematic framework that manages both localized psychological distress and the rapid spread of digital misinformation. This is supported by the work of Maed et al. (2025), Vicente et al. (2024), and Chatzipanagiotou and Katsarou (2023), who define stakeholder satisfaction as a byproduct of administrative transparency and the fulfillment of diverse community expectations.

The study’s independent variables Leadership and Governance are operationalized through the research of Jauro et al. (2023) and Garcia and Espiritu (2025), who identify governance as an institutional toolkit that transforms a principal's "compassionate decisiveness" into operational safety. However, Bakenne & Salawu (2025) and Fadipe (2020) caution that authoritarian or reactive approaches deepen mistrust, while Fadipe and Salawu (2025) advocate for inclusive governance to protect academic stability. Within this framework, the thematic areas are explored: Mitigation and Prevention are grounded in the proactive risk analysis of Alshehri (2026) and Sabanal (2023); Preparedness and Planning are linked to the capacity-building mandates of Fernandez (2025) and Buntong (2020); Response and Evacuation are viewed through the socio-technical lens of Bahmani et al. (2023) and Julius and Daryono (2021); and Recovery and Rehabilitation are defined by the "building back better" feedback loops of Tyas et al. (2025) and Yusuf et al. (2022).

The research further integrates Age, Sex, and Tenure as moderating variables that shape the internal and external experiences of the school community. Elbedour et al.

(2020) and Garcia and Espiritu (2025) identify age as a determinant of both developmental vulnerability and administrative readiness, while Durrani and Makhmetova (2024) and Yu et al. (2024) highlight the "resilience inequality" and disparities in preparedness associated with sex. Additionally, Ng (2024) and Amir et al (2025) establish tenure as a stabilizing anchor for organizational continuity, reducing staff attrition during systemic stress. These professional lenses ensure that the postvention and psychosocial care strategies proposed by Khalid et al. (2022) and Roblico et al. (2023) are tailored to the specific needs of the Mariveles population.

Finally, the study's ultimate "output" Stakeholder Satisfaction is grounded in the engagement research of Liu (2025) and Zakwan and Abdullah (2025). These authors posit that satisfaction is achieved when stakeholders are "active co-producers" of safety knowledge. As Asih (2023), Capala (2024), and Cominghud (2020) emphasize, higher levels of community awareness and participation in scenario-based drills lead to a more favorable perception of disaster risk reduction efforts. By synthesizing these diverse 2021–2026 perspectives, the research concludes that stakeholder trust in the Mariveles District is a direct result of an inclusive, trauma-informed, and demographic-responsive governance model that ensures the fundamental need for safety in both physical and virtual educational environments.

Taken together, these pieces of evidence indicate that profile variables such as the personal attributes, the organizational situations and the socio-environmental factors are a vital determinant of leadership performance, the disaster preparedness, as well as the stakeholder involvement in schools. The literature insists that interventions that are tailor-made, based on these variables, are critical in ensuring adaptive leadership, strong institutional practices, and positive educational outcomes in various learning institutions.

Despite DepEd's commendation for the DRRM policy's institutionalization, stakeholders' perspectives on readiness have not been sufficiently recorded, and standardized metrics for evaluating crisis preparedness at the school level are yet unfounded. These discrepancies are brought to light by the increasing frequency and intensity of disasters that affect Philippine schools. Several evaluations have pointed up deficiencies in evacuation planning, emergency coordination, and long-term rehabilitation. There may be a serious breakdown of confidence among stakeholders and a risk to the health and safety of pupils and school personnel. Without a data-based assessment of crisis preparedness, schools would not be able to lower their risk and instructional continuity might be severely hindered.

Thus, it is imperative to assess the existing situation of crisis management in the schools of the Mariveles District and find out what stakeholders think. The study will be useful in figuring out whether the schools' existing efforts to improve school resilience were adequate and compliant with policy requirements. Proactive action is therefore warranted given the circumstances. This study will provide a recommended crisis management strategy for schools based on real data collected from significant stakeholders. By mapping current crisis preparedness from strengths to gaps, the research will produce

recommendations for enhancing recovery mechanisms, expanding readiness protocols, boosting mitigation, and accelerating response procedures for schools.

These enhancements will also benefit school administrators, teachers, students, parents, and local government partners by guaranteeing safer learning environments, effective crisis protocols, and enhanced stakeholder involvement. This study is also supported by a number of national and international initiatives. For instance, DepEd Order No. 21, s. The Disaster Risk Reduction and Management Coordination and Information Management Protocol, which was created in 2015, mandates that all schools maintain operable crisis preparation systems. However, this strategy hasn't provided precise standards for figuring out whether a system is indeed operational or functioning. The Sendai Framework and the Philippine DRRM Act of 2010 (RA 10121) in Daminar, et al (2026) are examples of even more extensive frameworks that require evidence-based planning, inclusive governance, and active engagement.

As a result, these legal requirements highlight the necessity of continuing research into the application and real-world functioning of crisis management strategies. Personal experiences during the previous disasters in Bataan, which were mainly characterized by regular typhoons, an industrial hazard nearby, and local earthquakes, served as a greater source of inspiration for this problem. These events demonstrated how crucial it is for educational institutions to have stringent, evidence-based crisis management procedures. The topic is pertinent to the professional practice and course objectives of the Doctor of Education program, with an emphasis on educational leadership, policy implementation, and stakeholder-centered governance. This research will ultimately be motivated by my own desire to help the Mariveles District create safer, more resilient, and disaster-ready schools.

Research Questions

This study aimed to determine the level of school crisis management and its relationship to stakeholder satisfaction in the Mariveles District. Specifically, this study sought to answer the following questions:

1. What is the profile of the respondents in terms of:
   1.1 age;
   1.2 sex;
   1.3 stakeholder group; and
   1.4 tenure?
2. What is the level of school crisis preparedness in terms of:
   2.1 mitigation and prevention;
   2.2 preparedness and planning;
   2.3 response and evacuation; and
   2.4 recovery and rehabilitation?
3. What is the level of stakeholder satisfaction in the school's ability to manage crises in terms of:
   3.1. Leadership
   3.2. Risk Assessment

3.3. Capacity Building
3.4. Resources
3.5. Coordination
3.6. Response
3.7. Recovery

4. Is there a significant relationship between the perceived level of school crisis management and the level of stakeholder satisfaction?
5. Is there a significant difference in the level of school crisis management when grouped according to profile?
6. What school-based crisis management plan can be proposed based on the findings of the study?
7. How do stakeholders describe their experiences and perceptions regarding the school's management of crises?

METHODOLOGY

In order to navigate the systemic difficulties of school-based crisis management, a rigorous, non-experimental framework is provided via the use of a quantitative-descriptive-correlational research methodology. The study establishes a "statistical baseline" of the existing DepEd Bataan safety situation by employing a descriptive technique, which goes beyond anecdotal evidence. As required by RA 10121, this entails the methodical gathering of quantifiable data to measure the perceived efficacy of the four DRRM subject areas. The main benefit of this method is its inherent objectivity; the researcher can provide a high-fidelity snapshot of the Mariveles District's preparedness by applying measures of central tendency and variability, guaranteeing that the conclusions are based on empirical reality rather than subjective bias. Key players in the Mariveles District's educational environment for the academic year 2025–2026 make up the target demographic for this study. The population is divided into three separate strata: classroom instructors, parents/guardians, and school officials (including principals, assistant principals, and authorized DRRM Coordinators) in order to guarantee that the study's conclusions are both systemic and granular. The main players in the adoption, implementation, and reception of school-based crisis management procedures are represented by this demographic cross-section. The study employs a hybrid sample strategy that combines stratified random sampling with purposive (judgmental) sampling to achieve a balance between wide representativeness and specialized understanding (Miksza et al., 2023).

The Structured School Crisis Management and Stakeholder Satisfaction Survey (SCM-SSS) is the main tool used to gather data for this study. In order to ensure that the data collected is reliable and theoretically sound, the architecture of this instrument is purposefully synthesized from well-known psychometric models intended to evaluate safety perceptions and institutional trust (Miksza et al., 2023). In order to preserve reliability in a quantitative-descriptive-correlational study, the researcher must ensure that all 100 respondents get the same stimulus by using a structured methodology.

The School Crisis Management and Stakeholder Satisfaction Survey (SCM-SSS) was created using an iterative approach based on a thorough analysis of stakeholder theory and the literature on disaster risk reduction and management (DRRM). In order to ensure that the indicators were conceptually clear, contextually relevant, and empirically quantifiable within the particular socio-industrial landscape of public high schools in the Mariveles District, each Likert-scale question was designed to operationalize the study's particular sub-variables. A triangulated panel of experts rigorously assessed the instrument to determine its content validity. The instrument's compatibility with the official DepEd DRRM Frameworks (RA 10121) and the usefulness of the crisis management indicators were evaluated by the first validator, a DRRM Coordinator from the Schools Division Office of Bataan.

A formal request for authorization was sent to the Schools Division Superintendent (SDS) of the Schools Division Office (SDO) of Bataan to start the data gathering phase. The study's goals, methods, and dedication to administrative and ethical procedures were described in this official correspondence. The researcher coordinated the logistical deployment of the study instruments with the school heads of the participating public high schools in the Mariveles District after obtaining official approval. The researcher stressed the concepts of informed consent at these early briefings, emphasizing that participation was completely voluntary and that respondents had the unrestricted right to leave at any time without repercussions or administrative penalties. To increase the response rate, a multi-modal strategy was used to administer the Structured School Crisis Management and Stakeholder Satisfaction Survey (SCM-SSS). The survey was administered in person at specific school locations or through a secure digital platform, depending on the logistical choices of the respondents and the schools. The researcher personally supervised the distribution procedure and gave each participant uniform instructions to reduce instrumentation bias in order to guarantee the integrity of the results. The researcher immediately audited the returned instruments when the surveys were finished to ensure that the responses were consistent, complete, and readable.

This study used a methodical hierarchical approach to data analysis, moving from basic descriptive statistics to sophisticated inferential analysis. In order to find underlying trends, correlations, and notable distinctions among the Mariveles District's stakeholders, this methodical methodology made sure that the data was not only summarized but thoroughly analyzed. Table 3 established a direct connection between the objectives of the study and its mathematical results by mapping each unique research purpose to its appropriate statistical instrument, therefore providing a clear road map for this analytical phase. Weighted means and standard deviations were used to measure the degree of stakeholder satisfaction and crisis management effectiveness, while frequency and percentage distributions were used in the descriptive phase to profile the respondents' demographics. A Four-Point Likert Scale Verbal Interpretation Table was used to provide a consistent interpretation of these means.

The relational and comparative components of the investigation were then covered in the inferential phase. The degree and direction of the association between perceived crisis management and stakeholder satisfaction were ascertained using the Pearson Product-

Moment Correlation (Pearson's r). Additionally, the Independent Samples T-test or One-Way Analysis of Variance (ANOVA) were used to find differences in viewpoints across various responder groups (e.g., Administrators vs. Teachers). All statistical computations were processed using specialized software, such as SPSS or JASP, ensuring the precision and academic integrity of the final School-Based Crisis Management Plan.

Table 1: Population and Sample of the Study

Name of school	Administrator Respondent	Teacher Respondent	Parent / Guardian Respondent
Baseco National High School	2	5	3
Mariveles National High School - Poblacion	2	5	3
Biaan Aeta Integrated School	2	5	3
Mariveles National High School - Alion	2	5	3
Mariveles National High School - Alasasin	2	5	3
Ipag National High School	2	5	3
Mariveles National High School - Cabcaben	2	5	3
Mariveles National high School - Batangas II	2	5	3
Mariveles National High School - Malaya	2	5	3
Mariveles National High School - Sisiman	2	5	3
Total	**20**	**50**	**30**

Table 2: Structure of the Research Instrument

Part I	Variable/Component Measured	Item	Scale/Format	Purpose
I	Demographic Profile	4	Categorical (Multiple Choice)	To describe the sample (age, sex, stakeholder role, tenure).
II	Perceived Level of School Crisis Management	20	4-point Likert Scale (1-Very Low to 4-Very High)	To quantify preparedness at four stages: Mitigation, Preparedness, Response, Recovery.
III	Level of Stakeholder Satisfaction	30	4-point Likert Scale (1-Very Dissatisfied to 4-Very Satisfied)	To measure satisfaction across six dimensions: Communication, Leadership, Training, Resources, Support, and Recovery Services.
IV	Objective Crisis Preparedness Checklist	5	Binary Checklist (Yes/No)	To provide an objective verification of the presence of key preparedness items.

Table 3: Mapping of Study Objectives to Statistical Tools

Study Objective	Statistical Tool	Purpose/Interpretation
SOP 1: Profile of the respondents.	Frequency, Percentages	To describe the sample distribution by age, sex, stakeholder role, and tenure
SOP 2 & 3: Level of crisis preparedness and stakeholder satisfaction.	Mean (*M*), Standard Deviation (*SD*).	To determine the perceived level for each dimension and overall. Interpretation based on

		the 4-point scale (See Table 3).
SOP 4: Significant relationship between crisis management and satisfaction.	Pearson's product-moment correlation coefficient (r)	To test the strength and direction of the association between the two main variables. Significance tested at $p < .05$
SOP 5: Significant differences in crisis management perceptions when grouped by profile variables.	Independent samples t-test (for sex); One-way Analysis of Variance (ANOVA) (for age, role, tenure). If assumptions are violated, non-parametric equivalents (Mann-Whitney U, Kruskal-Wallis H) will be used.	To compare mean scores across groups. Post-hoc tests (e.g., Tukey HSD) will be applied if ANOVA results are significant. Significance tested at $p < .05$.

RESULTS

Table 4. Respondent's Profile in terms of Age

Age	Frequency	Percentage
20 - 30 years old	19	19.0%
31 - 40 years old	39	39.0%
41 - 50 years old	27	27.0%
51 - 60 years old	13	13.0%
61 - 70 years old	2	2.0%
Total	100	100.0%

The largest proportion of respondents falls within the 31–40 years old bracket, comprising 39% of the total sample. This is followed by those aged 41–50 years old at 27%, and 20–30 years old at 19%. Respondents aged 51–60 years old account for 13%, while only 2% belong to the 61–70 years old group. This distribution indicates that the majority of the respondents are within the middle-age working group, suggesting that they are likely in their active professional years and may have sufficient experience and involvement in school-related activities and crisis management practices.

Table 5. Respondent's Profile in terms of Sex

Sex	Frequency	Percentage
Female	74	74.0%

Male	26	26.0%
Total	100	100.0%

The data reveals that the majority of respondents are female, accounting for 74% of the total population, while males comprise only 26%. This suggests that female stakeholders are more represented in the study, which may reflect the actual composition of the educational workforce and parent stakeholders in the district, where women are often more actively engaged in school-related functions.

Table 6. Respondent's Profile in terms of Stakeholder Group

Group	Frequency	Percentage
Parent	30	30.0%
School Administrator	11	11.0%
Teacher	59	59.0%
Total	100	100.0%

Teachers represent the largest group at 59%, followed by parents at 30%, and school administrators at 11%. This implies that the findings of the study are largely influenced by the perspectives of teachers, who are directly involved in the implementation of school crisis management practices. The inclusion of parents and administrators, although smaller in proportion, still provides a broader perspective on stakeholder satisfaction and school preparedness.

Table 7. Respondent's Profile in terms of Tenure

Tenure	Frequency	Percentage
1 - 5 years	33	33.0%
11 years and above	24	24.0%
6 - 10 years	36	36.0%
Less than 1 year	7	7.0%
Total	100	100.0%

Most respondents have been affiliated with the school for 6–10 years (36%) and 1–5 years (33%), indicating that a significant portion of the participants have moderate experience within the school system. Meanwhile, 24% have served for 11 years and above, suggesting a substantial number of highly experienced stakeholders. Only 7% have less than one year of tenure, indicating that relatively few respondents are new to the school environment. This distribution suggests that the majority of respondents possess adequate familiarity with the school's crisis management practices, making their responses reliable for assessing both preparedness and satisfaction.

Table 8. Level of School Crisis Preparedness in terms of Mitigation and Prevention

Statement	Mean	SD	Descriptive Equivalent
Structural audits are conducted annually to ensure building safety.	3.34	0.655	Very Prepared
Potential hazards (e.g., old trees, faulty wiring) are identified and removed.	3.36	0.674	Very Prepared
Updated hazard maps are displayed in all classrooms and corridors.	2.89	0.827	Prepared
Fire-resistant materials and safety barriers are installed in high-risk areas.	3.19	0.748	Prepared
Drainage systems and roofing are regularly maintained to prevent flooding.	3.36	0.704	Very Prepared
Composite Mean	3.23	0.722	Prepared

DE: *1.00 – 1.75 = Not Prepared; 1.76 – 2.50 = Slightly Prepared; 2.51 – 3.25 =Prepared; 3.26 – 4.00 = Very Prepared*

Among the indicators, the identification and removal of potential hazards (M = 3.36) and the regular maintenance of drainage systems and roofing (M = 3.36) were rated as Very Prepared, indicating strong implementation of proactive safety measures. Similarly, structural audits (M = 3.34) were also rated Very Prepared, suggesting that building safety is regularly monitored. However, the display of updated hazard maps (M = 2.89) and the installation of fire-resistant materials and safety barriers (M = 3.19) were only rated as Prepared, implying that while these measures are present, there is still room for improvement in visibility and infrastructure enhancement.

Table 9. Level of School Crisis Preparedness in terms of Preparedness and Planning

Statement	**Mean**	**SD**	**Descriptive Equivalent**
A School-Based Disaster Risk Reduction Management (DRRM) Plan is active.	3.32	0.764	Very Prepared
Multi-hazard drills (fire, earthquake, etc.) are conducted every quarter.	3.69	0.581	Very Prepared
Emergency kits (Go-Bags) are complete and available in every classroom.	2.81	0.961	Prepared
The school has a designated and trained Incident Command Team.	2.95	0.821	Prepared
Updated emergency contact directories are distributed to all stakeholders.	3.15	0.809	Prepared

Composite Mean	**3.18**	**0.787**	**Prepared**

DE: *1.00 – 1.75 = Not Prepared; 1.76 – 2.50 = Slightly Prepared; 2.51 – 3.25 =Prepared; 3.26 – 4.00 = Very Prepared*

The composite mean of 3.18 indicates a level of *Prepared*. The conduct of multi-hazard drills (M = 3.69) and the presence of an active School-Based Disaster Risk Reduction and Management (DRRM) Plan (M = 3.32) were both rated *Very Prepared*, reflecting strong compliance with institutional disaster preparedness protocols. However, other indicators such as the availability of emergency kits (M = 2.81), the presence of a trained Incident Command Team (M = 2.95), and the distribution of updated emergency contact directories (M = 3.15) were rated as *Prepared*.

Table 10. Level of School Crisis Preparedness in terms of Response and Evacuation

Statement	Mean	SD	Descriptive Equivalent
Evacuation routes are clearly marked and kept free of any obstructions.	3.32	0.839	Very Prepared
The school utilizes an audible and distinct early warning alarm system.	3.30	0.798	Very Prepared
Designated safe assembly areas are well-defined and accessible.	3.34	0.699	Very Prepared
First aid stations and medical supplies are deployable within minutes.	3.01	0.745	Prepared
Standard operating procedures (SOPs) for student accounting are followed.	3.19	0.775	Prepared
Composite Mean	**3.24**	**0.771**	**Prepared**

DE: *1.00 – 1.75 = Not Prepared; 1.76 – 2.50 = Slightly Prepared; 2.51 – 3.25 =Prepared; 3.26 – 4.00 = Very Prepared*

The school achieved a composite mean of 3.24, interpreted as *Prepared*. The indicators on clearly marked evacuation routes (M = 3.32), functional early warning alarm systems (M = 3.30), and accessible safe assembly areas (M = 3.34) were all rated *Very Prepared*, indicating that immediate response mechanisms during emergencies are well established. On the other hand, first aid readiness (M = 3.01) and adherence to standard operating procedures for student accounting (M = 3.19) were rated as *Prepared*, suggesting that while systems are operational, further enhancement in efficiency and consistency may be necessary.

Table 11. Level of School Crisis Preparedness in terms of Recovery and Rehabilitation

Statement	Mean	SD	Descriptive Equivalent
Protocols for psychological first aid and debriefing are ready for use.	3.04	0.764	Prepared
A system for rapid damage assessment (RADAR) is utilized post-event.	3.02	0.791	Prepared
Alternative learning modalities are planned to ensure education continuity.	3.32	0.695	Very Prepared
Financial contingency funds are allocated for emergency repairs.	2.98	0.752	Prepared
Feedback mechanisms exist to improve the plan after every disaster event.	3.06	0.722	Prepared
Composite Mean	**3.08**	**0.619**	**Prepared**

DE: *1.00 – 1.75 = Not Prepared; 1.76 – 2.50 = Slightly Prepared; 2.51 – 3.25 =Prepared; 3.26 – 4.00 = Very Prepared*

The composite mean of 3.08 reflects a *Prepared* level. Only the planning of alternative learning modalities (M = 3.32) was rated as *Very Prepared*, highlighting the school's ability to ensure continuity of education after a crisis. Meanwhile, other indicators such as psychological first aid protocols (M = 3.04), rapid damage assessment systems (M = 3.02), financial contingency funds (M = 2.98), and feedback mechanisms for plan improvement (M = 3.06) were rated as *Prepared*.

Table 12. Level of School Crisis Preparedness

Crisis Management Components	Mean	SD	Descriptive Equivalent
Mitigation and Prevention	3.23	0.569	Prepared
Preparedness and Planning	3.18	0.642	Prepared
Response and Evacuation	3.24	0.635	Prepared
Recovery and Rehabilitation	3.08	0.619	Prepared
Overall Composite Mean	**3.18**	**0.575**	**Prepared**

DE: *1.00 – 1.75 = Not Prepared; 1.76 – 2.50 = Slightly Prepared; 2.51 – 3.25 =Prepared; 3.26 – 4.00 = Very Prepared*

The overall level of school crisis preparedness, as assessed across the four major components, yielded a composite mean of 3.18 with a standard deviation of 0.575, which is interpreted as *Prepared*. This indicates that, in general, the school demonstrates an adequate level of readiness in managing crises, with established systems and procedures in place, although these may not yet be fully optimized to reach a *Very Prepared* level.

Table 13. Level of Stakeholder Satisfaction in terms of Leadership and School DRRM Governance

Statement	Mean	SD	Descriptive Equivalent
The administration's decisiveness during emergency situations.	3.45	0.592	Very Satisfied
Transparency of the school in communicating safety policies	3.42	0.589	Very Satisfied
The visibility of the School DRRM Team in daily school operations.	3.23	0.750	Satisfied
Allocation of school resources for safety equipment and repairs.	3.22	0.705	Satisfied
Accountability of school leaders in implementing national safety mandates.	3.45	0.609	Very Satisfied
Composite Mean	**3.35**	**0.649**	**Very Satisfied**

DE: *1.00 – 1.75 = Very Dissatisfied; 1.76 – 2.50 = Dissatisfied; 2.51 – 3.25 =Satisfied; 3.26 – 4.00 = Very Satisfied*

The composite mean of 3.35 indicates a *Very Satisfied* rating. Stakeholders particularly expressed high satisfaction with the administration's decisiveness during emergencies (M = 3.45) and accountability in implementing safety mandates (M = 3.45), as well as transparency in communicating safety policies (M = 3.42). However, the visibility of the School DRRM Team (M = 3.23) and the allocation of resources (M = 3.22) were rated slightly lower at *Satisfied*, suggesting areas where leadership presence and resource distribution may still be enhanced.

Table 14. Level of Stakeholder Satisfaction in terms of Disaster Risk Assessment and Early Warning Systems

Statement	Mean	SD	Descriptive Equivalent
The clarity and reach of the school's emergency alarm/siren.	3.38	0.736	Very Satisfied
The accuracy of hazard maps posted within the school premises.	3.11	0.764	Satisfied
Timeliness of announcements during inclement weather or localized threats.	3.41	0.698	Very Satisfied
Accessibility of information regarding identified high-risk zones in school.	3.29	0.701	Very Satisfied
The use of digital platforms (SMS/Social Media) for urgent alerts.	3.47	0.658	Very Satisfied
Composite Mean	**3.33**	**0.711**	**Very Satisfied**

DE: *1.00 – 1.75 = Very Dissatisfied; 1.76 – 2.50 = Dissatisfied; 2.51 – 3.25 =Satisfied; 3.26 – 4.00 = Very Satisfied*

The composite mean of 3.33 reflects a *Very Satisfied* level. Stakeholders highly rated the use of digital platforms for urgent alerts (M = 3.47), the timeliness of announcements (M = 3.41), and the clarity of alarm systems (M = 3.38). The accessibility of risk-related information (M = 3.29) was also rated *Very Satisfied*, while the accuracy of hazard maps (M = 3.11) received a slightly lower rating of *Satisfied*, indicating a need for improved updating and precision of hazard-related visual materials.

Table 15. Level of Stakeholder Satisfaction in terms of Preparedness Planning and Capacity Building

Statement	Mean	SD	Descriptive Equivalent
The frequency of safety seminars provided to parents and guardians.	3.06	0.776	Satisfied
The quality of first-aid training provided to teachers and staff.	3.19	0.800	Satisfied
Inclusion of students in disaster preparedness workshops.	3.20	0.841	Satisfied
Regularity of simulated drills for various hazards (fire, flood, quake).	3.41	0.753	Very Satisfied
Availability of instructional materials on disaster readiness for families.	3.05	0.757	Satisfied
Composite Mean	**3.18**	**0.785**	**Satisfied**

DE: *1.00 – 1.75 = Very Dissatisfied; 1.76 – 2.50 = Dissatisfied; 2.51 – 3.25 =Satisfied; 3.26 – 4.00 = Very Satisfied*

The composite mean of 3.18 corresponds to a *Satisfied* level. While stakeholders were very satisfied with the regularity of simulated drills (M = 3.41), other aspects such as safety seminars (M = 3.06), first-aid training (M = 3.19), student inclusion in preparedness activities (M = 3.20), and availability of instructional materials (M = 3.05) were rated as *Satisfied*. This suggests that although capacity-building efforts are present, they may require further strengthening in terms of frequency, inclusivity, and resource support.

Table 16. Level of Stakeholder Satisfaction in terms of Resources

Statement	Mean	SD	Descriptive Equivalent
Accessibility of first-aid kits and emergency medical supplies	3.10	0.732	Satisfied
Working condition of fire extinguishers, alarms, and CCTVs	3.44	0.671	Very Satisfied
Reliability of emergency alert systems (SMS, PA system).	3.23	0.679	Satisfied
Provision of backup utilities (water/power) during crises.	3.15	0.744	Satisfied

Adequacy of the budget allocated for safety equipment.	3.03	0.717	Satisfied
Composite Mean	**3.19**	**0.709**	**Satisfied**

DE: *1.00 – 1.75 = Very Dissatisfied; 1.76 – 2.50 = Dissatisfied; 2.51 – 3.25 =Satisfied; 3.26 – 4.00 = Very Satisfied*

The composite mean of 3.19 indicates a *Satisfied* level. Stakeholders expressed high satisfaction with the working condition of safety equipment such as fire extinguishers and alarms (M = 3.44). However, other indicators such as accessibility of first-aid kits (M = 3.10), reliability of alert systems (M = 3.23), provision of backup utilities (M = 3.15), and adequacy of budget allocation (M = 3.03) were rated as *Satisfied*, highlighting the need for improvements in resource availability and financial support for safety measures.

Table 17. Level of Stakeholder Satisfaction in terms of Coordination

Statement	Mean	SD	Descriptive Equivalent
Effectiveness of the school's partnership with the Barangay DRRMC.	3.48	0.577	Very Satisfied
Involvement of the PTA in school safety planning and monitoring.	3.33	0.682	Very Satisfied
Speed of coordination with the BFP or PNP during emergencies.	3.53	0.577	Very Satisfied
Collaboration with local health offices for medical emergencies.	3.53	0.521	Very Satisfied
Consistency of reporting school safety status to the DepEd District Office.	3.50	0.595	Very Satisfied
Composite Mean	**3.47**	**0.590**	**Very Satisfied**

DE: *1.00 – 1.75 = Very Dissatisfied; 1.76 – 2.50 = Dissatisfied; 2.51 – 3.25 =Satisfied; 3.26 – 4.00 = Very Satisfied*

Coordination obtained the highest composite mean of 3.47, interpreted as *Very Satisfied*. All indicators under this domain, including partnerships with the Barangay DRRMC (M = 3.48), coordination with emergency services such as BFP and PNP (M = 3.53), collaboration with health offices (M = 3.53), and reporting to DepEd offices (M = 3.50), were rated *Very Satisfied*. This indicates that the school demonstrates strong collaborative efforts with both internal and external stakeholders in managing crises.

Table 18. Level of Stakeholder Satisfaction in terms of Response

Statement	Mean	SD	Descriptive Equivalent
Speed of activating the emergency plan once a threat is found.	3.35	0.657	Very Satisfied
Accuracy of the information released during an active crisis	3.41	0.570	Very Satisfied

Professionalism of staff in managing student safety	3.41	0.588	Very Satisfied
Orderliness of evacuation and lockdown procedures.	3.38	0.599	Very Satisfied
Control and management of crowds or visitors during events.	3.38	0.582	Very Satisfied
Composite Mean	**3.39**	**0.599**	**Very Satisfied**

DE: *1.00 – 1.75 = Very Dissatisfied; 1.76 – 2.50 = Dissatisfied; 2.51 – 3.25 =Satisfied; 3.26 – 4.00 = Very Satisfied*

The domain of response yielded a composite mean of 3.39, also interpreted as *Very Satisfied*. Stakeholders expressed high satisfaction with the speed of activating emergency plans (M = 3.35), accuracy of information dissemination (M = 3.41), professionalism of staff (M = 3.41), and the orderly conduct of evacuation procedures (M = 3.38). These results suggest that the school is highly effective in executing immediate actions during crisis situations.

Table 19. Level of Stakeholder Satisfaction in terms of Recovery

Statement	Mean	SD	Descriptive Equivalent
Promptness in resuming normal school operations and classes	3.50	0.595	Very Satisfied
Availability of mental health and counseling support.	3.19	0.662	Satisfied
Effectiveness of post-crisis debriefings with stakeholders	3.24	0.588	Satisfied
Commitment to repairing or upgrading damaged facilities	3.32	0.584	Very Satisfied
Integration of “lessons learned” into updated safety plans.	3.35	0.609	Very Satisfied
Composite Mean	**3.32**	**0.608**	**Very Satisfied**

DE: *1.00 – 1.75 = Very Dissatisfied; 1.76 – 2.50 = Dissatisfied; 2.51 – 3.25 =Satisfied; 3.26 – 4.00 = Very Satisfied*

The composite mean of 3.32 indicates a *Very Satisfied* level. Stakeholders were particularly satisfied with the prompt resumption of school operations (M = 3.50), commitment to facility repairs (M = 3.32), and integration of lessons learned into safety plans (M = 3.35). However, the availability of mental health support (M = 3.19) and effectiveness of post-crisis debriefings (M = 3.24) were rated as *Satisfied*, suggesting that psychosocial support and reflective practices may still need enhancement.

Table 20. Level of Stakeholder Satisfaction

Satisfaction Dimensions	Mean	SD	Descriptive Equivalent
Leadership	3.35	0.528	Very Satisfied
Risk Assessment	3.33	0.583	Very Satisfied
Capacity Building	3.18	0.671	Satisfied
Resources	3.19	0.614	Satisfied
Coordination	3.47	0.321	Very Satisfied
Response	3.39	0.532	Very Satisfied
Recovery	3.32	0.523	Very Satisfied
Overall Composite Mean	**3.32**	**0.539**	**Very Satisfied**

DE: *1.00 – 1.75 = Very Dissatisfied; 1.76 – 2.50 = Dissatisfied; 2.51 – 3.25 =Satisfied; 3.26 – 4.00 = Very Satisfied*

The overall level of stakeholder satisfaction with the school's crisis management was found to be Very Satisfied, as reflected by a composite mean of 3.32 and a standard deviation of 0.539. This indicates that stakeholders generally perceive the school as effective in managing crises, with systems and practices that meet or exceed their expectations.

Table 21. Proposed Plan Components

Statement	Mean	SD
Digital emergency alert system (App or SMS-based notifications).	3.38	0.838
Formation of a specialized Student-Led First Responder Team.	3.47	0.745
Mandatory mental health debriefing sessions after every drill/crisis.	3.42	0.755
Installation of CCTV cameras integrated with local police monitors.	3.51	0.659
Annual Safety Kits distribution for all classrooms and offices.	3.43	0.742
Community-inclusive drills involving parents and local businesses.	3.42	0.768
Regular Policy Review workshops involving all stakeholder groups.	3.42	0.806
Composite Mean	**3.44**	**0.646**

Table 22. Significant relationship between the perceived level of school crisis management and the level of stakeholder satisfaction

		Level of School Crisis Preparedness	Level of Stakeholder Satisfaction
Level of School Crisis Preparedness	Spearman's rho	—	
	df	—	
	p-value	—	
Level of Stakeholder Satisfaction	Spearman's rho	0.859***	—
	df	98	—
	p-value	<.001	—

*Note. * p < .05, ** p < .01, *** p < .001*

The relationship between the level of school crisis preparedness and stakeholder satisfaction was analyzed using Spearman's rho. The result shows a correlation coefficient of 0.859, which indicates a very strong positive relationship between the two variables. This means that when the school is more prepared in handling crises, stakeholders also tend to feel more satisfied.

The magnitude of the correlation coefficient (ρ = 0.859) suggests a high degree of association, implying that stakeholders who perceive the school as more prepared in terms of crisis management are also more likely to express higher satisfaction with its performance. The computed p-value (< .001) confirms that this relationship is not due to chance, leading to the rejection of the null hypothesis of no significant relationship.

Table 23. Significant Difference on the Level of School Crisis Preparedness When Grouped According to Age

Descriptives				χ^2	df	p	ε^2	Interpretation
	Age	Median	IQR					
Level of School Crisis Preparedness	20 - 30 years old	3.05	0.888	12.0	4	0.017	0.122	Significant
	31 - 40 years old	3.11	0.513					
	41 - 50 years old	3.51	0.631					
	51 - 60 years old	3.48	0.650					
	61 - 70 years old	3.76	0.238					

Table 24. Dwass-Steel-Critchlow-Fligner Pairwise Comparisons

		W	p	Interpretation
20 - 30 years old	31 - 40 years old	0.152	1.000	Not Significant
20 - 30 years old	41 - 50 years old	2.778	0.284	Not Significant
20 - 30 years old	51 - 60 years old	2.063	0.590	Not Significant

20 - 30 years old	61 - 70 years old	2.458	0.411	Not Significant
31 - 40 years old	41 - 50 years old	3.893	0.047	Significant
31 - 40 years old	51 - 60 years old	2.662	0.327	Not Significant
31 - 40 years old	61 - 70 years old	2.570	0.364	Not Significant
41 - 50 years old	51 - 60 years old	-0.593	0.994	Not Significant
41 - 50 years old	61 - 70 years old	1.646	0.772	Not Significant
51 - 60 years old	61 - 70 years old	1.686	0.756	Not Significant

The significant difference in the level of school crisis preparedness when grouped according to age was analyzed using a nonparametric test. The results show a computed Kruskal Wallis H- Test (χ^2) of 12.0 with 4 degrees of freedom and a p-value of 0.017, which is less than the 0.05 level of significance. This indicates that there is a significant difference in how respondents from different age groups perceive the level of school crisis preparedness. Therefore, the null hypothesis stating that there is no significant difference is rejected.

Looking at the median scores, it can be observed that older age groups tend to rate the school's crisis preparedness higher. Specifically, respondents aged 61–70 years old gave the highest rating (Median = 3.76), followed by those aged 41–50 years old (Median = 3.51) and 51–60 years old (Median = 3.48). In contrast, younger respondents aged 31–40 years old (Median = 3.11) and 20–30 years old (Median = 3.05) provided relatively lower ratings. This suggests that older stakeholders generally perceive the school as more prepared compared to younger stakeholders.

The effect size ($\varepsilon^2 = 0.122$) indicates a small to moderate effect, meaning that age has a noticeable but not very large influence on perceptions of crisis preparedness.

To further determine where the significant difference lies, a post hoc test using the Dwass-Steel-Critchlow-Fligner method was conducted, as shown in the next table. The results reveal that only the comparison between respondents aged 31–40 years old and 41–50 years old shows a significant difference ($p = 0.047$). All other pairwise comparisons were found to be not significant.

This means that the difference in perception of school crisis preparedness is mainly observed between these two specific age groups, while the other age groups have relatively similar perceptions.

Table 25. Significant Difference on the Level of School Crisis Preparedness When Grouped According to Sex

	Group	Median	IQR	SE	Statistic	p		Effect Size	Interpretation
Level of School Crisis Preparedness	Female	3.17	0.753	0.0699	872	0.479	Rank biserial correlation	0.0941	**Not Significant**
	Male	3.26	0.756	0.0960					

The significant difference in the level of school crisis preparedness when grouped according to sex was analyzed using a nonparametric test, Mann-Whitney U Test. The results show a test statistic value of 872 with a p-value of 0.479, which is greater than the 0.05 level of significance. This indicates that there is no significant difference in the perceived level of school crisis preparedness between male and female respondents. Therefore, the null hypothesis is accepted.

In terms of the median scores, male respondents (Median = 3.26) rated the level of school crisis preparedness slightly higher than female respondents (Median = 3.17). However, this difference is minimal and not statistically significant, meaning that both groups generally share similar perceptions regarding the school's preparedness in handling crises.

The effect size, measured using rank biserial correlation (r = 0.0941), is considered very small, further supporting the conclusion that sex has little to no influence on how respondents perceive school crisis preparedness.

Table 26. Significant Difference on the Level of School Crisis Preparedness When Grouped According to Stakeholder Group

	Descriptives			χ^2	df	p	ε^2	Interpretation
	Stakeholder	Median	IQR					
Level of School Crisis Preparedness	Parent	3.49	0.763	11.2	2	0.004	0.114	**Significant**
	School Administrator	3.48	0.506					
	Teacher	3.09	0.863					

Table 27. Dwass-Steel-Critchlow-Fligner Pairwise Comparisons

		W	p	Interpretation
Parent	School Administrator	-0.313	0.973	Not Significant
Parent	Teacher	-4.378	0.006	Significant
School Administrator	Teacher	-2.762	0.124	Not Significant

The significant difference in the level of school crisis preparedness when grouped according to stakeholder group was analyzed using the Kruskal–Wallis test. The results show a computed chi-square value (χ^2) of 11.2 with 2 degrees of freedom and a p-value of 0.004, which is less than the 0.05 level of significance. This indicates that there is a significant difference in the perceived level of school crisis preparedness among the different stakeholder groups. Therefore, the null hypothesis is rejected.

Examining the median scores, parents (Median = 3.49) and school administrators (Median = 3.48) reported higher perceptions of school crisis preparedness compared to teachers (Median = 3.09), who gave the lowest rating. This suggests that teachers tend to view the school as less prepared for crises compared to the other stakeholder groups.

The effect size ($\varepsilon^2 = 0.114$) indicates a small to moderate effect, meaning that the stakeholder group has a noticeable influence on how crisis preparedness is perceived.

To further identify where the significant difference lies, a post hoc test using the Dwass-Steel-Critchlow-Fligner method was conducted, as presented in the next table. The results reveal that there is a significant difference between parents and teachers (p = 0.006). However, no significant differences were found between parents and school administrators (p = 0.973), and between school administrators and teachers (p = 0.124).

This means that the difference in perception is mainly between parents and teachers, where teachers tend to give lower ratings compared to parents, while the perceptions of school administrators are not significantly different from either group.

Table 28. Significant Difference on the Level of School Crisis Preparedness When Grouped According to Tenure

	Descriptives			χ^2	df	p	ε^2	Interpretation
	Tenure	Median	IQR					
Level of School Crisis Preparedness	1 - 5 years	3.48	0.800	5.26	3	0.154	0.0532	**Not Significant**
	11 years and above	3.03	0.728					
	6 - 10 years	3.14	0.675					
	Less than 1 year	3.30	0.756					

The significant difference in the level of school crisis preparedness when grouped according to tenure was analyzed using the Kruskal–Wallis test. The results show a computed chi-square value (χ^2) of 5.26 with 3 degrees of freedom and a p-value of 0.154, which is greater than the 0.05 level of significance. This indicates that there is no significant difference in the perceived level of school crisis preparedness when respondents are grouped according to tenure. Therefore, the null hypothesis is accepted.

In terms of the median scores, respondents with 1–5 years of tenure reported the highest perception of school crisis preparedness (Median = 3.48), followed by those with less than 1 year (Median = 3.30), and 6–10 years (Median = 3.14). Respondents with 11 years

and above reported the lowest median (Median = 3.03). Although slight variations can be observed across groups, these differences are not statistically significant.

The effect size ($\varepsilon^2 = 0.0532$) indicates a small effect, suggesting that tenure has minimal influence on how respondents perceive the school's crisis preparedness.

DISCUSSION

The provided data showed the demographic profile of the respondents in terms of age. Out of the 100 participants, the largest group belonged to the 31–40 years old bracket, accounting for 39.0% of the total population. This was followed by those aged 41–50 years old at 27.0%, and the 20–30 years old group at 19.0%.

The remaining respondents were distributed between the older age brackets, with 13.0% falling within the 51–60 years old range and a small minority of 2.0% in the 61–70 years old category. These results indicated that the majority of the stakeholders in the Mariveles District were in their early to mid-career stages, suggesting a workforce that likely combined foundational experience with a significant period of remaining service. The data revealed a significant gender disparity among the respondents in the Mariveles District. Of the 100 participants, 74.0% were female, while 26.0% were male. This distribution indicated that the stakeholder group was predominantly female, reflecting the broader demographic trends often observed in the Philippine public education sector. This sex profile was a critical consideration for the study, as it ensured that the "perceived effectiveness" of crisis management strategies was viewed through a lens that largely represented the female perspective within the school community. The distribution of respondents across stakeholder groups showed that Teachers comprised the majority of the participants, representing 59.0% of the total sample. Parents made up 30.0%, while School Administrators accounted for the remaining 11.0%. This composition ensured that the data captured a diverse range of perspectives, from the frontline implementers of safety protocols to the strategic decision-makers and the community members directly affected by school policies. The strong representation of teachers and parents was particularly significant for assessing the "relational and communicative aspects" of the Systemic-Stakeholder Resilience Model established in the study The data showed that the respondents possessed varying levels of institutional experience within the Mariveles District. The largest segment consisted of those with 6–10 years of tenure, representing 36.0% of the sample, closely followed by those with 1–5 years of service at 33.0%.

Furthermore, 24.0% of the participants were seasoned stakeholders with 11 years or more of experience, while a small group of 7.0% had less than one year of tenure. This distribution indicated a balanced mix of "early-career" and "veteran" perspectives, which was essential for evaluating whether crisis management protocols were consistently understood across different levels of professional maturity and organizational history.

The level of school crisis preparedness in the Mariveles District regarding Mitigation and Prevention yielded a composite mean of 3.23 (SD = 0.722), which was interpreted

as Prepared. This indicated that while the schools maintained a strong foundational safety culture, there was still room for enhancement to reach the highest level of readiness.

The highest-rated indicators were the regular maintenance of drainage and roofing and the identification and removal of potential hazards, both earning a mean of 3.36, interpreted as Very Prepared. Similarly, annual structural audits received a mean of 3.34 (Very Prepared), suggesting that the schools were proactive in addressing the physical and environmental risks associated with their geographic location.

In contrast, the display of updated hazard maps in classrooms and corridors received the lowest mean of 2.89 (Prepared). While still meeting the readiness standard, this lower score highlighted a potential gap in the "structural" subsystem of the Systemic-Stakeholder Resilience Model, particularly in the visual communication of risk—a critical element for navigating the complex industrial and natural landscape of Bataan.

The level of school crisis preparedness in terms of Preparedness and Planning resulted in a composite mean of 3.18 (SD = 0.787), resulting in a descriptive equivalent of Prepared. This indicated that the Mariveles District had established functional operational frameworks, though certain logistical and organizational subsystems required further strengthening.

The most notable strength in this category was the conduct of multi-hazard drills, which achieved the highest mean of 3.69 (Very Prepared). This suggested a high level of compliance with national mandates for physical readiness and muscle memory among stakeholders. Additionally, the existence of an active School-Based DRRM Plan was rated highly at 3.32 (Very Prepared), confirming that the schools possessed the necessary theoretical and administrative foundations for crisis management.

However, the availability of complete emergency kits (Go-Bags) in every classroom received the lowest mean of 2.81 (Prepared), followed by the status of the designated Incident Command Team at 2.95 (Prepared). These findings pointed to a gap between "planning" and "resource allocation," suggesting that while the "cycle of input" (Mitroff, 1994) was active, the physical "readiness" materials and specialized team training had not yet reached the same level of maturity as the drill exercises.

The level of school crisis preparedness in terms of Response and Evacuation yielded a composite mean of 3.24 (SD = 0.771), resulting in a descriptive equivalent of Prepared. This indicated that the Mariveles District schools possessed a strong capacity for immediate action during the "damage containment" phase of a crisis.

The highest-rated indicator was the identification of designated safe assembly areas, which earned a mean of 3.34 (Very Prepared). This was closely followed by the maintenance of clear evacuation routes (3.32) and the use of audible early warning systems (3.30), both interpreted as Very Prepared. These results suggested that the "structural subsystems" required for physical movement and signaling were well-established and functional. Conversely, the deployability of first aid stations and medical

supplies received the lowest mean in this category at 3.01 (Prepared), followed by the adherence to SOPs for student accounting at 3.19 (Prepared). While still meeting the standard for readiness, these scores highlighted a need to refine the "procedural and psychological aspects" of the response, specifically regarding the speed of medical intervention and the precision of stakeholder accountability during the height of a systemic disruption.

The level of school crisis preparedness in terms of Recovery and Rehabilitation yielded a composite mean of 3.08 (SD = 0.619), resulting in a descriptive equivalent of Prepared. This was the lowest composite mean among the four DRRM thematic areas, suggesting that while the district was capable of responding to immediate threats, the long-term "homeostasis" of the system (Bertalanffy, 1968) faced more significant challenges during the restoration phase.

The strongest indicator in this category was the planning of alternative learning modalities, which earned a mean of 3.32 (Very Prepared). This reflected a high level of institutional resilience regarding learning continuity, likely bolstered by experiences from the COVID-19 pandemic.

However, financial contingency funds for emergency repairs received the lowest mean of 2.98 (Prepared), followed by the utilization of rapid damage assessment (RADAR) systems at 3.02 (Prepared). These results indicated that the "structural" and "resource" subsystems were the most vulnerable points in the recovery cycle. Furthermore, the readiness of psychological first aid protocols (3.04) and feedback mechanisms (3.06) remained at the "Prepared" level, suggesting that the "learning" and "recovery" stages of Mitroff's (1994) lifecycle required more robust integration to prevent temporary disruptions from becoming permanent systemic failures.

The Overall Composite Mean for the Level of School Crisis Preparedness in the Mariveles District was 3.18 (SD = 0.575), which resulted in an overall descriptive equivalent of Prepared. This indicated that the schools maintained a consistent and functional readiness across all four thematic areas of Disaster Risk Reduction and Management (DRRM), successfully meeting the mandates of RA 10121.

A comparative analysis of the components revealed the following: Response and Evacuation emerged as the strongest dimension with the highest mean of 3.24, suggesting that the schools excelled in immediate "damage containment" and the physical safety of stakeholders during a crisis; Mitigation and Prevention followed closely with a mean of 3.23, highlighting proactive efforts in structural audits and hazard identification to maintain systemic "homeostasis."; Preparedness and Planning earned a mean of 3.18, reflecting solid foundational frameworks, such as multi-hazard drills and active DRRM plans.; Recovery and Rehabilitation recorded the lowest mean of 3.08, identifying the post-crisis phase as the most vulnerable stage in the district's crisis management lifecycle.

These results demonstrated that while the schools were effectively equipped to handle the "structural and procedural" demands of active emergencies, more focused development was needed in the recovery subsystem to ensure long-term resilience and a faster return to institutional stability.

The correlational analysis revealed a very strong, positive, and highly significant relationship between the perceived level of school crisis preparedness and the level of stakeholder satisfaction in the Mariveles District .With a Spearman's rho of 0.859, the data demonstrated that as the effectiveness of school crisis management increased, stakeholder satisfaction rose proportionately. This statistically significant result confirmed that the "systemic-stakeholder" link was not coincidental; rather, the quality of the schools' DRRM subsystems—spanning from prevention to recovery—was a primary driver of the trust and satisfaction felt by parents, teachers, and administrators.

These findings validated the study's theoretical framework, specifically the Systemic-Stakeholder Resilience Model, by proving that institutional "homeostasis" and effective crisis communication (SCCT) directly resulted in the qualitative "output" of a satisfied and secure school community. The analysis revealed a significant difference in the perceived level of school crisis preparedness when respondents were grouped according to age. This indicated that the "systemic perspective" of the Mariveles District's readiness varied significantly across different generational cohorts. The data showed a clear upward trend in median scores as the age of the respondents increased: The 61–70 years old group recorded the highest median score of 3.76, followed by the 41–50 (3.51) and 51–60 (3.48) age brackets. In contrast, younger respondents in the 20–30 (3.05) and 31–40 (3.11) groups perceived lower levels of preparedness. The effect size suggested a moderate relationship, implying that age played a notable role in how stakeholders evaluated safety protocols. This disparity may have stemmed from the greater institutional memory and "veteran" experience of older stakeholders, who likely witnessed the evolution of DRRM policies over decades. Conversely, younger stakeholders might have held more critical views or higher technological expectations for crisis systems. The Dwass-Steel-Critchlow-Fligner (DSCF) pairwise comparisons pinpointed the specific source of the variance within the age demographic. The only statistically significant difference occurred between the 31–40 years old group and the 41–50 years old group. All other pairings, including comparisons between the youngest (20–30) and the oldest (61–70) cohorts, yielded no significant differences. This finding suggested that the "perceptual shift" regarding school crisis preparedness was most pronounced as stakeholders transitioned from their mid-career (31–40) to their senior-professional (41–50) stages. Within the Systemic-Stakeholder Resilience Model, this significant gap between the 30s and 40s age brackets might have reflected a divergence in expectations or experiences; while the 31–40 group recorded a lower median. This highlights a need for administrators to ensure that crisis management "successes" are communicated consistently across these mid-to-late career stages to maintain a unified safety culture. The analysis revealed no significant difference in the perceived level of school crisis preparedness when respondents were grouped according to sex. Although the Male respondents recorded a slightly higher median score compared to

their Female counterparts, the difference was statistically negligible. This was further supported by a Rank biserial correlation of, indicating a very small effect size.

These results suggested that in the Mariveles District, the "structural and procedural" subsystems of crisis management were perceived with a high degree of consensus across genders. Within the study's framework, this indicated that school safety protocols were applied and understood uniformly, ensuring that the gender of the stakeholder did not create a "perceptual gap" in how institutional readiness was evaluated. The analysis revealed a significant difference in the perceived level of school crisis preparedness when respondents were grouped by Stakeholder Group. This indicated that the "systemic perspective" of school safety was not uniform across the different subsystems of the Mariveles District.The descriptive data showed that Parents and School Administrators held the most positive views of school readiness. In contrast, Teachers recorded the lowest median score at 3.09, suggesting they were more critical of the crisis management systems than the other two groups.

The Dwass-Steel-Critchlow-Fligner (DSCF) pairwise comparisons identified the specific source of this disparity:A statistically significant difference was found between Parents and Teachers. No significant difference was observed between Parents and Administrators, or between Administrators and Teachers. This finding was critical within the Systemic-Stakeholder Resilience Model. It suggested a "perceptual gap" between the frontline implementers (Teachers) and the external beneficiaries (Parents). While parents felt a high level of security, teachers—who deal with the day-to-day operational realities and resource constraints—perceived the system as less prepared. This highlights the need for administrators to address the specific concerns of the teaching staff to ensure the "internal subsystem" is as confident as the external community. The analysis revealed no significant difference in the perceived level of school crisis preparedness when respondents were grouped according to Tenure. This suggested that the length of time a stakeholder had been part of the Mariveles District did not fundamentally alter their evaluation of the school's safety systems. While those with 1–5 years of service recorded the highest median score (3.48) and those with 11 years and above recorded the lowest (3.03), the effect size was small, and the differences were not statistically meaningful. This finding indicated a high level of consistency in systemic perception across the organizational hierarchy. Whether a stakeholder was a new recruit with less than one year of experience or a veteran with over a decade of service, they shared a common understanding of the district's readiness. Within the study's framework, this lack of significant difference suggested that the induction and socialization processes regarding DRRM were effective, ensuring that safety protocols were communicated and understood by all members of the school community, regardless of their professional history.

Conclusions

On the Profile of the Respondents

The study concludes that the school community in Mariveles is characterized by a mature, female-dominated workforce (31–50 years old) with significant institutional experience (6–10 years). The strong representation of Teachers

(59%) and Parents (30%) indicates that the findings reflect the views of those most directly impacted by daily school operations and safety outcomes.

On the Level of School Crisis Preparedness

The Mariveles District has achieved a consistent state of "Preparedness" (Mean = 3.18) across all DRRM thematic areas. While schools are "Very Prepared" for immediate physical threats through Response and Evacuation (Mean = 3.24), they are least prepared for Recovery and Rehabilitation (Mean = 3.08). This indicates that the system is built for "survival" rather than long-term "resilience," with significant gaps in financial and psychological recovery subsystems.

On the Level of Stakeholder Satisfaction

Stakeholders are "Very Satisfied" (Mean = 3.32) with how crises are managed, particularly regarding Coordination (Mean = 3.47) and Response (Mean = 3.39). The high ratings for leadership and communication suggest that school administrators have successfully protected the schools' reputation through transparency. However, lower satisfaction in Capacity Building and Resources reflects a community desire for more tangible safety materials and family-inclusive training.

On the Significant Relationship between Preparedness and Satisfaction

A very strong and highly significant positive correlation exists between preparedness and satisfaction. This leads to the conclusion that stakeholder trust is an "output" of the school's "internal safety processes." Any improvement in the physical or procedural aspects of crisis management will result in a direct and significant increase in community confidence.

On the Significant Difference in Preparedness when Grouped by Profile

Perceptions of safety are demographically sensitive. The study concludes that: Age Matters: Older stakeholders view the system as more robust, while younger cohorts are more critical. Stakeholder Role is Critical: A significant "perceptual gap" exists where Teachers perceive lower readiness than Parents. This suggests that those who implement the plans (teachers) are more aware of the daily resource gaps than those who merely observe them (parents). Sex and Tenure are Neutral: Gender and length of service do not significantly alter a stakeholder's view of school safety.

On the Support for the Proposed Plan

There is a unanimous and "Strongly Agreed" mandate (Mean = 3.44) for systemic upgrades. The community specifically prioritizes technological integration (CCTV and digital alerts), student empowerment (first-responder teams), and socio-emotional recovery (mental health debriefings), confirming that the current "Prepared" status is no longer enough for the complex risks of the Mariveles District.

On the Integration of a Multi-Hazard Architecture

Finally, the study concludes that for the Mariveles District to maintain institutional homeostasis, it must transition from a reactive "single-risk" mindset to a multi-hazard architecture. By addressing the "Recovery" gap and the "Teacher-Parent" perceptual divide through the proposed plan, the district can move from being merely "Prepared" to being a truly resilient educational ecosystem.

Recommendations

1. Institutionalize Multi-Generational Mentorship
   The DepEd District Office should implement a "Safety Mentorship Program" where veteran educators (aged 51–70) who perceive high readiness share institutional history and best practices with younger staff (aged 20–30) who are more critical. This ensures that safety "culture" is passed down and that younger teachers' technical expectations are met through modernized protocols.

2. Prioritize a "Recovery-First" Budgetary Shift
   To address the lowest-rated preparedness area (Recovery and Rehabilitation), school heads must advocate for a dedicated "Resilience Fund" at the LGU or School Board level. This should prioritize the immediate availability of Rapid Damage Assessment (RADAR) tools and the pre-allocation of funds for emergency repairs to minimize learning disruptions.

3. Launch a "Family-Inclusive" DRRM Series
   Given that Capacity Building received the lowest satisfaction scores, schools should move beyond internal drills. It is recommended to conduct quarterly "Safety Open Houses" where parents and families are trained alongside students in basic first aid and emergency response, shifting the PTA's role from passive observers to active safety partners.

4. Strengthen the "Preparedness-Satisfaction" Feedback Loop
   Since preparedness directly drives satisfaction, school leaders should utilize Situational Crisis Communication Theory (SCCT) by publishing a "Quarterly Safety Scorecard." By transparently sharing drill results and equipment upgrades with the community, the school can actively sustain and grow the current "Very Satisfied" sentiment.

5. Bridge the "Teacher-Parent" Perceptual Gap
   Administrators must address the specific grievances of Teachers, who are the most critical of current readiness. It is recommended to hold "Frontline Safety Audits"—private sessions where teachers can report resource gaps (like incomplete Go-Bags or faulty alarms) without administrative penalty, ensuring the internal subsystem is as confident as the external stakeholders.

6. Pilot the "Digital-Resilience" Upgrades
   Based on the "Strongly Agree" response to the proposed plan, the district should prioritize the installation of Police-Integrated CCTV and the development of

a District-Wide SMS Alert System. These technological "hardwares" directly address the stakeholders' highest-rated desires for a modernized safety environment.

7. Implement the "Mariveles Student-Led First Responder" Model
   To formalize the transition to a Multi-Hazard Architecture, each school should establish a specialized Student-Led First Responder Team. This moves student involvement from simple drill participation to leadership in "damage containment," fostering a long-lasting safety culture that can handle the unique industrial and natural threats of the Mariveles District.

Compliance with Ethical Standards

The author declares that this study was conducted with strict adherence to established ethical protocols and institutional guidelines. Prior to the data collection phase, informed consent was obtained from all participants, who were explicitly briefed on the study's objectives and their unconditional right to withdraw from the research at any juncture without prejudice or administrative penalty. To ensure the highest level of confidentiality, the anonymity of all respondents was rigorously maintained, and all personal identifiers were removed during the data processing stage in full compliance with the Data Privacy Act of 2012 (RA 10173). The well-being and psychological safety of the participants remained a primary concern throughout the study, ensuring that no harm resulted from their involvement. Furthermore, the author affirms that no conflict of interest exists that could potentially influence the integrity or results of this research. Plagiarism was strictly avoided through diligent citation and acknowledgment of all scholarly sources, and a neutral, objective stance was maintained to ensure no bias occurred in the interpretation of the findings. All data collected were used purely for academic research purposes and institutional development. In the interest of full disclosure, Artificial Intelligence (AI) tools were utilized as an adaptive collaborator to assist in the refinement of the manuscript’s linguistic structure, formatting, and grammatical consistency; however, the author maintains full accountability for the conceptual framework, data analysis, and the final intellectual content of this work.

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