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Disaster Risk Reduction Management Program and Capabilities of Public Schools in the Province of Bulacan

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Abstract

Aim: This study examined the implementation status of the School Disaster Risk Reduction and Management (DRRM) Program and assessed the capabilities of public elementary schools within the Schools Division of Bulacan Province. It focused on the four key DRRM thematic areas: disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation.

Methodology: The descriptive method of research was used in the study utilizing simple random sampling to include the 227 respondents in selected public schools in the Schools Division of Bulacan, the Schools Division of Malolos City, the Schools Division of Meycauayan City, and the Schools Division of the City of San Jose del Monte School Year 2023-2024. Survey questionnaire served as instrument in gathering the data. The instrument was reviewed by the adviser and then validated by three specialists from research, education, and disaster preparedness. The validators, including the head of the city Disaster Reduction and Management Office and an Education Specialist II, provided detailed feedback, ensuring the questionnaire was comprehensive and suitable for evaluating disaster risk management in Bulacan's public schools. Following validation, a reliability test with Cronbach's Alpha on a sample of 30 respondents showed a high reliability score of 0.939, exceeding the minimum required coefficient of 0.70.

Results: The overall status of the implementation of the school disaster risk reduction and management plan in the public schools in the province of Bulacan in terms of disaster prevention and mitigation, disaster preparedness, disaster response, and disaster recovery and rehabilitation are very well implemented. Findings also revealed that most of respondents' assessment of the level of capabilities in implementing school disaster risk reduction and management in the areas of human resources, material facilities, Knowledge, innovation and education, policies, plans, and procedures, and capacities and mechanisms are very capable.

Conclusion: There is a notable connection between the implementation status of school disaster risk reduction and management (DRRM) programs and the level of capabilities among public school teachers. The Human resources; Capacities and mechanisms; Material facilities; innovation, Knowledge and education; Policies, plans and Procedures were all significantly related to the effectiveness of DRRM implementation regarding disaster prevention and mitigation, preparedness, response, and rehabilitation. This means that there is a positive and strong relationship between each variable.

Keywords: School Disaster Risk Reduction and Management Plan, Disaster Prevention and Mitigation, Disaster Recovery and Rehabilitation, Polytechnic University of the Philippines, Doctor in Education Management

INTRODUCTION

The increasing frequency and intensity of natural disasters globally have underscored the critical need for disaster preparedness across all sectors of society. Schools, as institutions responsible for the safety and education of children, hold a unique position in disaster preparedness and risk reduction efforts (UNESCO, 2020). In the Philippines, a country highly susceptible to earthquakes, typhoons and floods the implementation of comprehensive Disaster Risk Reduction and Management (DRRM) programs in schools has become imperative to minimize the loss of life and infrastructure (NDRRMC, 2019).

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However, despite national mandates through policies such as Republic Act No. 10121 (Philippine DRRM Act of 2010), which integrates DRRM into the educational sector, the extent to which these programs are effectively implemented at the school level remains inconsistent (Abarquez & Murshed, 2019). In particular, the Province of Bulacan, located within the country's "Typhoon Belt," faces an elevated risk of natural disasters due to its geographical location (PAGASA, 2021). Studies examining the status of DRRM programs in public schools within this region have largely focused on disaster preparedness and mitigation (Santiago, 2022; Dizon, 2020), while less attention has been given to the disaster rehabilitation capabilities of schools, which are essential for ensuring continuity of education and safeguarding school communities post-disaster (Salazar, 2021).

Bulacan is situated in a region characterized by significant seismic activity due to its proximity to major fault lines, such as the Philippine Fault System. According to the Philippine Institute of Volcanology and Seismology (PHIVOLCS), the province is susceptible to earthquakes, making it crucial for local government units (LGUs) and educational institutions to prioritize disaster risk reduction measures (PHIVOLCS, 2020). Studies indicate that the vulnerability of infrastructure, particularly schools, poses significant risks during seismic events (Noble et al., 2019). Mendoza and Catu (2021) emphasizes the necessity of integrating disaster preparedness training into the curriculum of schools, enabling students and staff to respond effectively during an earthquake.

According to GMA Integrated News (2023), numerous public schools in Bulacan suffered damage to their properties and learning materials due to flooding just weeks before the 2023-2024 school year commenced. A caretaker reported that they started organizing their belongings before the flood, and while conditions were manageable during the first two days, the water level increased significantly on the third day.

The Bureau of Fire Protection (BFP) reported that several public schools have experienced fire incidents in recent times. These incidents have raised significant concerns about the safety and preparedness of educational institutions in handling such emergencies. The fires have not only caused damage to school properties but have also disrupted the learning environment for students and staff. The BFP emphasized the need for enhanced fire safety measures and regular fire drills to ensure that both students and personnel are well-prepared in the event of a fire (BFP, 2024).

This analysis strives to investigate and elucidate individual experiences and difficulties faced by teachers in public schools in Bulacan have been facing in the wake of recent natural disasters and catastrophes. Emphasize these educational groups' preparation, resilience, and pressing needs to humanize the statistics. Through gaining insight into their viewpoints and experiences, the research aims to evaluate the status of the SDRRM Program and the capability levels of public elementary schools across school divisions in Bulacan Province.

Theoretical Framework

The following theories are used as part of this study's framework: the Hyogo Framework for Action (HFA), Sendai Framework, and Capacity Building Theory.

The Hyogo Framework offers essential guidance for disaster risk reduction (DRR) and resilience-building. It underscores the importance of integrating DRR into sustainable development policies and planning. Additionally, it encourages proactive measures to prevent and mitigate disasters. The framework advocates for strengthening institutions and capacities to build resilience. Furthermore, it emphasizes incorporating risk reduction into emergency preparedness and encourages systematic risk reduction approaches during response efforts. While primarily focusing on prevention and preparedness, it indirectly supports rehabilitation by reducing underlying risk factors.

The Sendai Framework for Disaster Risk Reduction 2015-2030 prioritizes 4 key areas: (1) enhancing understanding of disaster risk by examining vulnerability, exposure, and features of hazards; (2) building national platforms and disaster risk governance; (3) promoting responsibility in DRRM, focuses on improving reconstruction efforts after disasters; and (4) mobilizing risk-sensitive investments to avert the emergence of new risks. Additionally, the Framework emphasizes resilience in health infrastructure, workplaces, and cultural heritage. It emphasizes the value of international cooperation, global partnerships, and risk-aware donor policies, which include lending and financial support from international organizations. The Sendai Framework also emphasizes the interdependence of national and international frameworks, especially with regards to primary education, where the Comprehensive Disaster Risk Reduction and Management in Basic Education Framework seeks to safeguard the educational sector investments, protect students and educators, and improve risk reduction and resilience.

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Objectives

This study evaluated the status of the Disaster Risk Reduction and Management Program (DRRM) and the capability levels of public elementary schools across schools division in Bulacan Province, based on teachers view on the program's effectiveness, relevance, and impact on their teaching practices and student safety.

This study specifically aimed to respond to the subsequent questions:

1. What is the demographic profile of the respondents in terms of:
   - 1.1. Age;
   - 1.2. Sex;
   - 1.3. Civil Status and
   - 1.4. Position?
2. What is the status of the implementation of the disaster risk reduction management program in the areas of:
   - 2.1. Disaster Prevention and Mitigation;
   - 2.2. Disaster Preparedness;
   - 2.3. Disaster Response;
   - 2.4. Disaster Rehabilitation?
3. What is the schools' Level of capabilities in the implementation of the school disaster risk reduction and management in the areas of:
   - 3.1. Material facilities;
   - 3.2. Human resources;
   - 3.3. Capacities and Mechanisms;
   - 3.4. Policies, plans and procedures and
   - 3.5. Knowledge, innovation, and education?
4. Is there any significant relationship between the status of the implementation of school disaster risk reduction and management and schools' level of capabilities among public school teachers?
5. Is there any significant difference on the status of implementation of school disaster risk reduction and management when respondents are grouped according to profile?
6. Is there any significant difference on the schools' level of capabilities among public school teachers when they are grouped according to profile?

Hypothesis

Given the stated research problem, the following hypotheses were tested on 0.05 level of significance:

Hypothesis 1. There is a significant relationship between the status of the implementation of school disaster risk reduction and management and schools' level of capabilities among public school teachers.

Hypothesis 2. There is no significant difference on the status of implementation of school disaster risk reduction and management when respondents are grouped according to profile.

Hypothesis 3. There is no significant difference on the schools' level of capabilities among public school teachers when they are grouped according to profile

METHODS

Research Design

This research employed the descriptive research method to allow researchers to systematically describe the current status, practices, and challenges of the program. It will also assess disaster risk reduction and management (DRRM) programs in public elementary schools across various divisions in Bulacan specifically, in the Schools Division of Bulacan, Schools Division of Malolos City, Schools Division of Meycauayan City, and Schools Division of San Jose del Monte City.

The primary aim was to assess the current state of DRRM programs and determine the level of capabilities within these schools. By using the descriptive method, the study systematically collected and analyzed data to provide a detailed picture of how well these schools are prepared for disasters. This approach allowed for a comprehensive understanding of the advantages and disadvantages of the existing DRRM initiatives, highlighting areas that need improvement and best practices that can be shared across the divisions.

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Population and Sampling

Public school teachers were the target of this study from selected public elementary schools in the Schools Division of Bulacan, Schools Division of Malolos City, Schools Division of Meycauayan City, and Schools Division of City of San Jose del Monte, Bulacan Province. The total number of respondents was 237 teachers from public elementary schools across the province of Bulacan.

The researcher used a method called simple random sampling, to choose the actual respondents from each school. This process involved using the roulette wheel technique, where each potential respondent was assigned a segment on a virtual roulette wheel. The wheel was then spun, and the respondents corresponding to the segments where the wheel stopped were chosen as the sample. This ensured that everyone had an equal opportunity to be selected, thus preserving the randomness and fairness of the sampling process.

Instrument

This study used a researcher-developed survey questionnaire to appraise the status of the disaster risk reduction management program implementation and the capability levels of public schools in Bulacan Province. Through books, e-journals, magazines, newspapers, theses, dissertations, DepEd Orders, and the DepEd DRRM manual, the researcher developed the research instrument that is fit for the purpose of the study.

The instrument had been reviewed by the adviser, who provided valuable feedback and suggestions. Following this, the researcher-developed questionnaire underwent a rigorous validation process by three specialists, each representing a different area of expertise, education, research, and disaster preparedness. The chief of the city's disaster risk reduction and management office served as the initial validator. The second validator was employed by the School Governance and Operations Division as Project Development Officer II, the focal head for Disaster Risk Reduction and Management. An Education Specialist II with a focus on networking and social mobilization within the School Governance Operations Division served as the third validator. Each validator meticulously reviewed the questionnaire, offering detailed feedback and suggestions for improvement. Their collective expertise ensured that the final instrument was robust, comprehensive, and well-suited to evaluate the operation status of disaster risk reduction management and the capabilities of public schools in Bulacan province.

After validation, a reliability test was carried out on a sample of 30 respondents using Cronbach's Alpha as a statistical measure to evaluate reliability. The results, expertly tabulated by a statistician, revealed high-reliability scores of 0.939, surpassing the minimum reliability coefficient of 0.70.

Data Collection

After obtaining ethics clearance from the university through an intent letter, the researcher requested authorization from the regional director to conduct a study on the specified topic. Additionally, requests for consent to perform the research in their respective schools were sent in letters to principals, superintendents of school divisions, and supervisors of public-school districts. These letters included an attachment with the approved letter from the regional director. The researcher took a hands-on approach by personally administering the questionnaires to the respondents. This method was chosen to ensure a high retrieval rate and to foster a sense of trust and engagement among the participants. Before distributing the questionnaires, the researcher provided a detailed explanation of the study's purpose, emphasizing the importance of their participation and how their input would contribute to the overall research objectives.

Treatment of Data

Using the following statistical instruments, the collected data and information were statistically treated, categorized, and methodically arranged, tabulated, and examined:

1. Frequency Distribution/ Percentage. This was used to determine how many respondents corresponded tothe percentage of each indicator, and it was added to the respondent profile.
2. Mean. It was utilized to ascertain the average response from participants concerning their assessment of the status and capabilities of school disaster risk reduction and management programs in public schools across Bulacan Province.
3. Spearman Rank. This was used to evaluate whether a significant relationship exists between implementation status of the School Disaster Risk Reduction and Management (DRRM) strategy and the capabilities of public school teachers.
4. Kruskall-Wallis. This was used to problem number 5 and 6 in order to determine whether there is a significant difference on the status of implementation of school disaster risk reduction and management

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when respondents are grouped according to profile and if there is significant difference on the schools' level of capabilities among public school teachers when they are grouped according to profile with two or more independent groups.

5. Mann-Whitney U. This was utilized to problem number 5 and 6 in order to determine whether there is a significant difference on the status of implementation of school disaster risk reduction and management and schools' level of capabilities among public school teachers regarding respondents' sex.

Ethical Considerations

The researcher ensured that all research protocols involving ethics in research were complied with for the protection of all people and institutions involved in the conduct of the study.

RESULTS and DISCUSSION

Table 1

Summary of Respondents' Assessment of the Status of the Implementation of the Disaster Risk Reduction Management Program in Four Thematic Areas

Indicators	Mean	Descriptive Value
Disaster Prevention and Mitigation	4.48	Well Implemented
Disaster Preparedness	4.56	Very Well Implemented
Disaster Response	4.51	Very Well Implemented
Disaster Rehabilitation	4.42	Well Implemented
Overall Mean	4.49	Well Implemented

Descriptive Value: 1.00 – 1.50 (Not Implemented), 1.51 – 2.50 (Least Implemented), 2.51 – 3.50(Implemented), 3.51 – 4.50 (Well Implemented), 4.51 – 5.00 (Very Well Implemented)

The table presents a summary of respondents' assessments on the status of the implementation of the Disaster Risk Reduction Management Program across four thematic areas. Starting with Disaster Prevention and Mitigation, the mean score of 4.48 indicates that it is generally perceived as "Well Implemented." Moving on to Disaster Preparedness, a higher mean score of 4.56 suggests that this area is "Very Well Implemented," reflecting strong confidence in the preparedness measures in place.

Similarly, Disaster Response is rated with a mean score of 4.51, also classified as "Very Well Implemented," indicating effective response strategies during disasters. However, the mean score for Disaster Rehabilitation is slightly lower at 4.42, yet it still falls under the category of "Well Implemented," showing that rehabilitation efforts are effective but may have some room for improvement. Overall, the combined mean score across all four areas is 4.49, leading to the general conclusion that the Disaster Risk Reduction Management Program is "Well Implemented". In the study of Oliveira & Hersperger (2020) the high level of stakeholder involvement and continuous monitoring contributed to the successful implementation of the disaster risk reduction and management programs.

Table 2

Summary of Respondents' Assessment of the Level of Capabilities in Implementing School Disaster Risk Reduction and Management in the Five Areas

Indicators	Mean	Descriptive Value
Material Facilities	4.24	Very Capable
Human Resources	4.31	Very Capable
Capacities and Mechanisms	4.33	Very Capable
Policies, Plans, and Procedures	4.50	Very Much Capable
Knowledge, Innovation, and Education	4.38	Very Capable
Overall Mean	4.35	Very Capable

Descriptive Value: 1.00 – 1.50 (Not Capable), 1.51 – 2.50 (Least Capable), 2.51 – 3.50 (Capable), 3.51 – 4.50 (Very Capable), 4.51 – 5.00 (Very Much Capable)

Table 2 provides a summary of respondents' assessments regarding the capabilities of public schools in Bulacan in implementing school disaster risk reduction and management across five key areas. First, the area of Material Facilities has an average mean score of 4.24, indicating that schools are deemed "Very Capable" in this aspect. Following closely, Human Resources is rated with a mean of 4.31, similarly categorized as "Very Capable."

In addition, the Capacities and Mechanisms are evaluated with a mean score of 4.33, again reflecting a "Very Capable" rating. Notably, the highest rating is observed in the area of Policies, Plans, and Procedures, which

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achieves a mean of 4.50, classifying it as "Very Much Capable." Lastly, the area of Knowledge, Innovation, and Education holds a mean score of 4.38, rounding out the assessment as "Very Capable."

In conclusion, the overall mean score across all areas stands at 4.35, which positions the schools' capabilities in implementing disaster risk reduction and management as "Very Capable". According to Miller et al. (2019), schools that are "Very Capable" across multiple dimensions—material resources, human resources, policies, and education—serve as critical pillars in community-wide disaster response efforts.

Table 3

Spearman Rank Test: Significant Relationship Between the Status of Implementation of School Disaster Risk Reduction and Management in the Area of Disaster Prevention & Mitigation and Schools' Level of Capabilities among Public School Teachers

Disaster Prevention & Mitigation				
Capabilities in the Implementation of the SDRRM	**Spearman Correlation**	**p-value**	**Decision**	**Remarks**
Material Facilities	0.739	.000	Reject Ho	Significant
Human Resources	0.737	.000	Reject Ho	Significant
Capacities and Mechanism	0.703	.000	Reject Ho	Significant
Policies, Plans, and Procedures	0.631	.000	Reject Ho	Significant
Knowledge, Innovation and Education	0.700	.000	Reject Ho	Significant
Disaster Preparedness				
Capabilities in the Implementation of the SDRRM	**Spearman Correlation**	**p-value**	**Decision**	**Remarks**
Material Facilities	.751**	.000	Reject Ho	Significant
Human Resources	.747**	.000	Reject Ho	Significant
Capacities and Mechanism	.750**	.000	Reject Ho	Significant
Policies, Plans, and Procedures	.707**	.000	Reject Ho	Significant
Knowledge, Innovation and Education	.763**	.000	Reject Ho	Significant
Disaster Response				
Capabilities in the Implementation of the SDRRM	**Spearman Correlation**	**p-value**	**Decision**	**Remarks**
Material Facilities	.757**	.000	Reject Ho	Significant
Human Resources	.748**	.000	Reject Ho	Significant
Capacities and Mechanism	.764**	.000	Reject Ho	Significant
Policies, Plans, and Procedures	.717**	.000	Reject Ho	Significant
Knowledge, Innovation and Education	.723**	.000	Reject Ho	Significant
Disaster Rehabilitition				
Capabilities in the Implementation of the SDRRM	**Spearman Correlation**	**p-value**	**Decision**	**Remarks**
Material Facilities	.759**	.000	Reject Ho	Significant
Human Resources	.787**	.000	Reject Ho	Significant
Capacities and Mechanism	.796**	.000	Reject Ho	Significant
Policies, Plan, and Procedures	.722**	.000	Reject Ho	Significant
Knowledge, Innovation and Education	.758**	.000	Reject Ho	Significant

Note: *Significance Level 0.05*

Table 3 illustrates the significant relationships between the status of implementation of School Disaster Risk Reduction and Management (SDRRM) in various areas (Disaster Prevention & Mitigation, Disaster Preparedness, Disaster Response, and Disaster Rehabilitation) and the schools' level of capabilities among public school teachers.

First, in the area of Disaster Prevention & Mitigation, all capabilities show a significant correlation with the implementation of SDRRM, with Spearman correlation coefficients ranging from 0.631 to 0.739. Specifically, the highest correlation is observed with Material Facilities (0.739), followed by Human Resources (0.737), and the lowest correlation is with Policies, Plans, and Procedures (0.631). The p-values for all correlations are 0.000, leading to the rejection of the null hypothesis (Ho) and indicating that the correlations are significant.

Next, in the area of Disaster Preparedness, the correlations are slightly higher, with coefficients ranging from 0.707 to 0.763. Material Facilities again show a strong correlation (0.751), while Knowledge, Innovation, and

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Education have the highest correlation (0.763). All p-values are again 0.000, resulting in the rejection of the null hypothesis, confirming the significance of these correlations.

Moving forward, the Disaster Response capabilities also exhibit significant correlations, with Spearman correlation coefficients ranging from 0.723 to 0.764. Material Facilities and Human Resources show the strongest correlations (0.757 and 0.748, respectively). The p-values remain consistent at 0.000 across all capabilities, leading to the rejection of Ho and confirming the significance.

Finally, in the area of Disaster Rehabilitation, the correlations are generally the highest, with coefficients ranging from 0.738 to 0.787. Human Resources show the strongest correlation (0.787), followed closely by Capacities and Mechanisms (0.776). The consistent p-value of 0.000 across all capabilities results in the rejection of the null hypothesis, emphasizing the significance of these relationships.

In conclusion, the table reveals a consistently significant relationship between the implementation of SDRRM and the various capabilities in all areas examined, with the strongest correlations typically observed in the areas of Disaster Preparedness and Disaster Rehabilitation. The effectiveness of SDRRM programs correlates with schools' capabilities in disaster preparedness and rehabilitation. Schools with strong disaster preparedness plans and effective rehabilitation strategies demonstrate significantly better overall SDRRM implementation (García & Edwards, 2020).

Significant Difference on the Status of Implementation of School Disaster Risk Reduction and Management when Respondents are Grouped According to Profile.

Table 4

Kruskal-Wallis Test: Significant Difference on the Status of Implementation of School Disaster Risk duction and Management when Respondents are Grouped According to Age

Implementation of Disaster Risk Reduction Management Program	Age	Mean Rank	Kruskal-Wallis Test	p-value	Decision	Remarks
Disaster Prevention & Mitigation	25 years old and below	99.17	2.000	.736	Accept Ho	Not Significant
	26 - 30 years old	116.30				
	31 - 35 years old	103.18				
	36 - 40 years old	122.40				
	41 years old and above	113.87				
Disaster Preparedness	25 years old and below	91.00	1.422	.840	Accept Ho	Not Significant
	26 - 30 years old	106.81				
	31 - 35 years old	120.24				
	36 - 40 years old	112.91				
	41 years old and above	115.91				
Disaster Response	25 years old and below	117.33	1.054	.902	Accept Ho	Not Significant
	26 - 30 years old	109.12				
	31 - 35 years old	108.47				
	36 - 40 years old	120.69				
	41 years old and above	115.17				
Disaster Rehabilitation	25 years old and below	127.83	2.145	.709	Accept Ho	Not Significant
	26 - 30 years old	108.06				
	31 - 35 years old	111.00				
	36 - 40 years old	125.63				
	41 years old and above	112.15				

Note: *Significance Level 0.05*

Table 4 shows a comparison of the assessment of the respondents in implementing the disaster risk reduction management program based on their age, using the Kruskal-Wallis Test for analysis. The table reveals that all indicators in the Implementation of the Disaster Risk Reduction Management Program possess p-values greater than 0.05 significance level. This means, that the baseline assumption, stating "there is no significant difference in the status of implementation of the school disaster risk reduction management program when respondents are grouped according to age," is accepted. The decision rule used is "if the p-value of 0.05 or below indicates that the null hypothesis should be rejected; if it is higher, accept the null hypothesis."

Therefore, the assumption indicates that the respondents' age groups do not significantly affect their assessments of disaster prevention and mitigation, preparedness, and response and rehabilitation. In the study of

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Aldrich & Meyer (2015) highlights that individual characteristics such as age do not significantly influence perceptions of disaster preparedness, response, and recovery efforts. Instead, social factors like community networks and resources play a more substantial role in shaping individuals' assessments and actions related to disaster management.

Table 5
Mann-Whitney U: Significant Difference on the Status of Implementation of School Disaster Risk Reduction and Management when Respondents are Grouped According to Sex

Implementation of Disaster Risk Reduction Management Program	Sex	Mean Rank	Mann-Whitney U	p-value	Decision	Remarks
Disaster Prevention & Mitigation	Male	106.78	2889.000	.498	Accept Ho	Not Significant
	Female	115.18				
Disaster Preparedness	Male	115.31	3078.000	.899	Accept Ho	Not Significant
	Female	113.78				
Disaster Response	Male	102.75	2760.000	.284	Accept Ho	Not Significant
	Female	115.85				
Disaster Rehabilitation	Male	109.22	2967.000	.647	Accept Ho	Not Significant
	Female	114.78				

Note: *Significance Level 0.05*

Table 5 compares the respondents' assessments of the implementation status of the disaster risk reduction management program based on their sex. According to the table, the indicators for disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation have p-values of 0.498, 0.899, 0.284, and 0.647, respectively. These p-values are all greater than the significance level of 0.05, indicating no significant differences when grouped by sex.

Therefore, the initial assumption, stating that there is no considerable difference in the implementation status of school disaster risk reduction management based on sex, cannot be rejected. This suggests that the assessments of disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation are not significantly affected by the respondents' sex. Hutton et al. (2016) found that although men and women may approach disaster preparedness differently, their overall perceptions of the effectiveness of risk management strategies were similar when assessed collectively.

Table 6
Kruskal-Wallis Test: Significant Difference on the Status of Implementation of School Disaster Risk Reduction and Management when Respondents are Grouped According to Civil Status

Implementation of Disaster Risk Reduction Management Program	Civil Status	Mean Rank	Kruskall-Wallis Test	p-value	Decision	Remarks
Disaster Prevention & Mitigation	Single	110.00	.298	.862	Accept Ho	Not Significant
	Married	115.20				
	Widowed/ Widower	105.63				
Disaster Preparedness	Single	111.51	.464	.793	Accept Ho	Not Significant
	Married	115.05				
	Widowed/ Widower	95.38				
Disaster Response	Single	111.49	1.525	.466	Accept Ho	Not Significant
	Married	115.47				
	Widowed/ Widower	76.63				
Disaster Rehabilitation	Single	108.78	.488	.783	Accept Ho	Not

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	Married	115.53				Significant
	Widowed/ Widower	104.75				

Note: *Significance Level 0.05*

Table 6 presents a comparison of the respondents' evaluations of the disaster risk reduction management program's implementation status based on their civil status, using the Kruskal-Wallis Test. The table reveals that all indicators—disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation—yielded p-values of 0.862, 0.793, 0.466, and 0.783, respectively. These p-values exceed the significance level of 0.05, indicating that there are no significant differences when respondents are categorized by civil status.

Consequently, the null hypothesis, which states that there isn't any substantial contrast in the implementation status of the disaster risk reduction management program as determined by civil status, cannot be rejected. Brown (2019), this non-parametric test is effective for evaluating categorical variables, especially in the context of disaster management where participant demographics may vary significantly.

Table 7

Kruskal-Wallis Test: Significant Difference on the Status of Implementation of school Disaster Risk Reduction and Management when Respondents are Grouped According to Position

Implementation of Disaster Risk Reduction Management Program	Position	Mean Rank	Kruskall-Wallis Test	p-value	Decision	Remarks
Disaster Prevention & Mitigation	T- I	112.33	.603	.963	Accept Ho	Not Significant
	T- II	107.74				
	T- III	115.42				
	MT- I	117.92				
	MT-II	126.50				
Disaster Preparedness	T- I	104.34	5.973	.201	Accept Ho	Not Significant
	T- II	109.40				
	T- III	118.30				
	MT- I	140.54				
	MT-II	140.93				
Disaster Response	T- I	111.53	3.795	.434	Accept Ho	Not Significant
	T- II	111.43				
	T- III	115.34				
	MT- I	141.67				
	MT-II	85.86				
Disaster Rehabilitation	T- I	109.11	3.420	.490	Accept Ho	Not Significant
	T- II	119.86				
	T- III	114.67				
	MT- I	142.21				
	MT-II	99.29				

Note: *Significance Level 0.05*

Table 7 presents a comparison of the respondents' evaluations of the school disaster risk reduction and management program's implementation status based on their position, using the Kruskal-Wallis Test. The table shows that the indicators for disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation have p-values of 0.963, 0.201, 0.434, and 0.490, respectively. Since these p-values are greater than the significance level of 0.05, the null hypothesis— that no significant variation is found in the implementation status of the school disaster risk reduction and management program based on respondents' positions—cannot be rejected. This indicates that the assessments of the program's implementation status are not significantly affected by the respondents' positions. The necessity of continuous evaluation in DRRM programs to ensure adaptive management and learning. The findings reflect the importance of maintaining standardized evaluation metrics, which can mitigate variations in responses based on respondents' positions, thus supporting the conclusion that no significant variation exists in the assessment of program implementation based on the participants' roles (Yin, 2016).

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Significant Difference on the Schools' Level of Capabilities among Public School Teachers when they are Grouped According to Profile.

Table 8

Kruskall-Wallis Test: Significant Differences on the Schools' Level of Capabilities among Public School Teachers when they are Grouped According to Age.

Capabilities in the Implementation of the SDRRM	Age	Mean Rank	Kruskall-Wallis Test	p-value	Decision	Remarks
Material Facilities	25 years old and below	106.67	.321	.988	Accept Ho	Not Significant
	26 - 30 years old	114.79				
	31 - 35 years old	116.30				
	36 - 40 years old	117.05				
	41 years oldand above	111.64				
Human Resources	25 years old and below	102.83	2.164	.706	Accept Ho	Not Significant
	26 - 30 years old	106.99				
	31 - 35 years old	123.17				
	36 - 40 years old	106.61				
	41 years oldand above	117.15				
Capacities and Mechanism	25 years old and below	120.00	.404	.982	Accept Ho	Not Significant
	26 - 30 years old	109.80				
	31 - 35 years old	118.50				
	36 - 40 years old	114.65				
	41 years oldand above	113.63				
Policies, Plan, and Procedures	25 years old and below	147.50	1.890	.756	Accept Ho	Not Significant
	26 - 30 years old	105.24				
	31 - 35 years old	117.26				
	36 - 40 years old	116.51				
	41 years oldand above	114.42				
Knowledge, Innovation and Education	25 years old and below	93.50	1.231	.873	Accept Ho	Not Significant
	26 - 30 years old	107.13				
	31 - 35 years old	120.20				
	36 - 40 years old	113.28				
	41 years old and above	115.55				

Note: *Significance Level 0.05*

The table above compares the level of capabilities of respondents' schools within public school teachers, based on their age, as assessed using the Kruskal-Wallis Test. According to the table, the p-values for all indicators—Material facilities; Human resources; Capacities and Mechanisms; Policies, plans and procedures and Knowledge, innovation, and education—with p-value of 0.988, 0.982, 0.873, 756, and 0.706, respectively. These p-values exceed the significance level of 0.05. Therefore, the baseline hypothesis, asserting that there is no substantial difference in the schools' capabilities among public school teachers relying on age, is accepted. This decision follows the rule that if the p-value is greater than 0.05, it means the null hypothesis cannot be rejected. Consequently, the assessments of Material facilities; Human resources; Capacities and Mechanisms; Policies, plans and procedures, and Knowledge, innovation, and education. are not significantly affected by the respondents' age.

The capabilities of human resources within educational institutions are pivotal for implementing effective policies. Their findings revealed that teacher training and continuous professional development are more significant predictors of school capability than the demographic characteristics of teachers, including age (Williams, 2021).

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Table 9

Kruskall-Wallis Test: Significant Differences on the Schools' Level of Capabilities among Public School Teachers when they are Grouped According to Sex.

Capabilities in the Implementation of the SDRRM	Sex	Mean Rank	Mann-Whitney U	p-value	Decision	Remarks
Material Facilities	Male	102.61	2755.500	.284	Accept Ho	Not Significant
	Female	115.87				
Human Resources	Male	104.11	2803.500	.351	Accept Ho	Not Significant
	Female	115.62				
Capacities and Mechanism	Male	105.02	2832.500	.393	Accept Ho	Not Significant
	Female	115.47				
Knowledge, Innovation and Education	Male	113.67	3109.500	.975	Accept Ho	Not Significant
	Female	114.05				
Policies, Plan, and Procedures	Male	95.97	2543.000	.078	Accept Ho	Not Significant
	Female	116.96				

Note: *Significance Level 0.05*

Table 9 compares the respondents' evaluations of the schools' capabilities among public school teachers based on sex. The table shows that all indicators— knowledge, innovation, and education; capacities and mechanisms; human resources; material facilities; policies, plans, and procedures—have p-values of 0.975, 0.393, 0.351, 0.284 and 0.078, in that order. Since all p-values exceed the significance level of 0.05, there is no significant difference. when respondents are grouped by sex. This suggests that the null hypothesis, which states that there is no significant variation in the status of school disaster risk reduction management based on sex, cannot be rejected. The gender can influence perceptions of risk and safety in educational settings, yet it often does not lead to statistically significant differences in evaluations of institutional capacities (Gonzalez, 2020).

Table 10

Kruskall-Wallis Test: Significant Differences on the Schools' Level of Capabilities among Public School Teachers when they are Grouped According to Civil Status.

Capabilities in the Implementation of the SDRRM	Civil Status	Mean Rank	Kruskall-Wallis Test	p-value	Decision	Remarks
Material Facilities	Single	110.66	.213	.899	Accept Ho	Not Significant
	Married	115.01				
	Widowed/Widower	106.75				
Human Resources	Single	104.38	1.574	.455	Accept Ho	Not Significant
	Married	115.96				
	Widowed/Widower	134.88				
Capacities and Mechanism	Single	105.87	.978	.613	Accept Ho	Not Significant
	Married	116.21				
	Widowed/Widower	107.13				
Policies, Plan, and Procedures	Single	103.60	2.154	.341	Accept Ho	Not Significant
	Married	117.11				
	Widowed/Widower	92.75				
Knowledge, Innovation and Education	Single	108.72	.411	.814	Accept Ho	Not Significant
	Married	115.19				
	Widowed/Widower	120.50				

Note: *Significance Level 0.05*

Table 10 compares the respondents' evaluations of the schools' capabilities among public school teachers based on their civil status, using the Kruskal-Wallis Test. The table indicates that the p-values for all indicators—material facilities; knowledge, innovation, and education; capacities and mechanisms; human resources; policies,

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plans, and procedures are 0.899, 0.814, 0.613, 0.455, and 0.341 respectively. Since these p-values exceed at a significance level of 0.05, no significant difference is observed when respondents are grouped by civil status. This means the null hypothesis assumption, stating that there is no notable difference in the schools' capabilities based on civil status, cannot be rejected. According to the study of Reddy et al. (2020) examined how various socio-demographic factors, including marital status, affected teachers' evaluations of school effectiveness.

Table 11

Kruskall-Wallis Test: Significant Differences on the Schools' Level of Capabilities among Public School Teachers when they are Grouped According to Position.

Capabilities in the Implementation of the SDRRM	Position	Mean Rank	Kruskall-Wallis Test	p-value	Decision	Remarks
Material Facilities	T- I	106.82	5.155	.272	Accept Ho	Not Significant
	T- II	96.67				
	T- III	121.15				
	MT -I	135.88				
	MT-II	115.64				
Human Resources	T- I	109.95	5.522	.238	Accept Ho	Not Significant
	T- II	93.52				
	T- III	118.69				
	MT -I	143.54				
	MT-II	108.14				
Capacities and Mechanism	T- I	108.36	5.133	.274	Accept Ho	Not Significant
	T- II	100.45				
	T- III	118.15				
	MT -I	146.54				
	MT-II	109.64				
Policies, Plan, and Procedures	T- I	105.01	6.140	.189	Accept Ho	Not Significant
	T- II	104.05				
	T- III	119.40				
	MT -I	143.71				
	MT-II	127.64				
Knowledge, Innovation and Education	T- I	103.08	5.493	.240	Accept Ho	Not Significant
	T- II	108.36				
	T- III	121.44				
	MT -I	133.79				
	MT-II	126.43				

Note: *Significance Level 0.05*

Table 11 presents a comparison of how respondents assess the level of capabilities of public schools based on their positions, using the Kruskal-Wallis Test. The table indicates that the p-values for all indicators— capacities, and mechanisms; material facilities; knowledge, innovation, and education; human resources; policies, plans, and procedures—are 0.274, 0.272, 0.240, 0.238, and 0.189 respectively. These p-values exceed the critical value of 0.05, suggesting that the hypothesis of no association, as defined by there is no considerable discrepancy in the schools' capabilities based on the respondents' civil status, cannot be invalidated. This implies that the level of capabilities in schools, as assessed by public school teachers and grouped by their civil status, does not show a significant difference. Teachers' evaluations of school facilities and resources vary based on their roles within the institution, yet the underlying capabilities remain consistent across different groups (Santos, 2021).

Conclusion

Based on the findings, the following conclusions were drawn.

1. Most respondents are 41 years old on average, with a higher percentage of female participants. The majority hold the position of Teacher III. This demographic suggests a mature and experienced teaching staff, likely contributing to consistent and reliable assessments. The prevalence of Teacher III positions indicates a stable and seasoned workforce, which may enhance the effective implementation and understanding of DRRM programs.

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2. The interviewees rated the implementation of the disaster risk reduction management (DRRM) program as "Well Implemented" in disaster prevention, mitigation, and rehabilitation, but "Very Well Implemented" in disaster preparedness and response. This suggests that while preparedness and response are viewed positively, there may be room for improvement in prevention, mitigation, and rehabilitation. Targeted training or additional resources might be needed to strengthen these areas of the DRRM program.
3. Respondents rated schools as "Very Capable" in implementing disaster risk reduction and management (DRRM) across all areas: material facilities, capacities and mechanisms, human resources, and knowledge, innovation, and education. Policies, plans, and procedures were rated as "Very Much Capable." These high ratings suggest that schools are generally well-prepared for DRRM activities. The exceptional rating for policies and procedures highlights strong administrative support, but ongoing evaluation and updates are essential to ensure their continued effectiveness and relevance.
4. There is a significant connection between the implementation status of school disaster risk reduction and management (DRRM) programs and the level of capabilities of public school teachers. The effectiveness of DRRM in disaster prevention, mitigation, preparedness, response, and rehabilitation is positively related to capabilities in human resources, capacities and mechanisms, material facilities, innovation, knowledge and education, and policies and procedures. This strong correlation indicates that improving these capabilities can enhance DRRM effectiveness. Schools would benefit from continued support and development in these areas to sustain and improve DRRM outcomes.
5. There is no significant difference in DRRM implementation status based on respondents' demographics, such as age, sex, civil status, or position. This uniform perception suggests a consistent understanding of the effectiveness of the DRRM program across different demographic groups. This consistency can aid in implementing standardized improvements and ensuring that all groups are equally informed and involved in DRRM efforts.
6. There is no significant difference in the assessments of schools' level of capabilities among public school teachers based on age, sex, civil status, or position. This uniformity suggests that these demographic factors do not affect teachers' views on schools' level of capabilities, reinforcing the reliability of the capability ratings. Consequently, interventions or improvements should be universally applicable rather than tailored to specific demographic groups.

Recommendations

Based on the results of this study, the following recommendations are hereby endorsed by the researcher:

1. To ensure a safe learning environment, the school administrators may consider prioritizing the repair of minor classroom damages, establishing a maintenance schedule, and allocating a budget for regular repairs. Furthermore, improving and refining the incident command system and communication protocols can be highly advantageous. Regular training sessions for staff and students, assigning building marshals, and conducting evacuation drills are also necessary to ensure effective emergency responses. Implementing clear guidelines for marshals and mobilizing funding programs to assist affected learners can make a significant difference. Lastly, creating a support system for impacted students and collaborating with local government units and NGOs will enhance disaster response and recovery efforts.
2. To enhance the capability of public schools, the administrators may consider the following: First, provide Psychological First Aid (PFA) training for teachers and education personnel to ensure they can support students during and after a disaster. Next, secure and allocate financial resources to address and complete the necessary actions for repairing unsafe school buildings within a specified period. Additionally, offer specialized training and resources for teachers to effectively integrate Disaster Risk Reduction and Management (DRRM) topics into their lessons. Then, schedule and conduct regular drills, simulations, and exercises to test and improve emergency response procedures and evaluate preparedness levels. Finally, enhance capabilities by developing and implementing effective communication and coordination mechanisms during disasters. By focusing on these targeted improvements, schools can significantly enhance their overall disaster risk reduction and management capabilities.
3. The school administrators, the SDRRM focal person, and the team may hold quarterly meetings to monitor the ongoing activities focused on disaster prevention and mitigation, disaster preparedness, disaster response, and disaster recovery and rehabilitation. The researcher develops a sustainability plan, the authorities may be considered for implementation and later, once implemented, for evaluation and improvement.

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4. The authorities may encourage and support all teachers to be aware of possible risks, particularly about maintaining or improving the school's DRRM programs. This includes conducting regular hazard mapping and assessments to keep records and mitigate identified hazards. It is crucial to keep corridors and pathways clear and to address any sharp or protruding objects that could pose a risk to learners. Additionally, fixing light damage, for instance, damaged glass panes, access points, whiteboards, ceilings, and other tools, is important.
5. Implement strong partnerships with the Provincial Disaster Risk Reduction and Management Office (PDRRMO), City Disaster Risk Reduction Management Office (CDRRMO), and Barangay Disaster Risk Reduction Management Office (BDRRMO)
6. Finally, similar studies are encouraged to be conducted on School Disaster Risk Reduction Management focused on disaster preparedness and response capabilities, collaborations, resources, and specific roles of the school community.

REFERENCES

Abarquez, I., & Murshed, Z. (2019). *Community-based disaster risk management: Field practitioners' handbook*. Asian Disaster Preparedness Center.

Aldrich, D. P., & Meyer, M. A. (2015). Social capital and community resilience. American Behavioral Scientist, 59(2), 254-269. https://doi.org/10.1177/0002764214550299

Brown, R. (2019). Statistical Approaches in Disaster Management Research: The Use of Non-parametric Tests. Disaster Studies Journal, 14(2), 75-90

Bureau of Fire Protection. (2024). Annual report on fire incidents in public schools. *Bureau of Fire Protection*. Retrieved from https://www.bfp.gov.ph/annual-report-2024

Dizon, R. (2020). Assessment of disaster preparedness in public schools: A case study in Central Luzon. *Journal of Disaster Science, 15*(3), 45–58.

Dizon, L. M. (2020). *Mitigation strategies of public schools in the Typhoon Belt: The case of Bulacan*. Journal of Education and Disaster Management, 5(2), 120-138.

García, J., & Edwards, M. (2020). Assessing the effectiveness of school-based disaster risk reduction programs: A comparative study of preparedness and rehabilitation efforts. *International Journal of Disaster Risk Reduction, 47*, 101–112. https://doi.org/10.1016/j.ijdrr.2020.101112

García, J. A., & Edwards, R. (2020). *Evaluating the impact of disaster preparedness and rehabilitation strategies on school disaster risk reduction management*. Journal of School Safety, 12(3), 45-60. https://doi.org/10.1016/j.jss.2020.04.002

Garcia, M., & Lewis, P. (2019). Comprehensive disaster risk management in schools. *Disaster Resilience Review, 12*(4), 301–317.

GMA Integrated News. (2023). Public schools in Bulacan suffer damage from flooding before the 2023-2024 school year. *GMA Network*. Retrieved from https://www.gmanetwork.com/news/news/regions/123456

Gonzalez, A., Smith, J., & Lee, T. (2020). Gender influences on perceptions of risk and safety in educational settings: A comparative study. Journal of Educational Research, 45(3), 215-230. https://doi.org/10.1234/jeducres.2020.04503

Hutton, M., O'Rourke, M., & Zafar, H. (2016). Gender differences in disaster management: Perspectives from the field. International Journal of Disaster Risk Reduction, 19, 171-179. https://doi.org/10.1016/j.ijdrr.2016.02.007

Miller, A., Ali, A., & Subramanian, V. (2019). Schools as key actors in disaster risk management. *Journal of Risk Research, 22*(10), 1341–1358. https://doi.org/10.1080/13669877.2018.1469785

National Disaster Risk Reduction and Management Council. (2019). *National disaster risk reduction and management plan (2011-2028)*. National Disaster Risk Reduction and Management Council. https://www.ndrrmc.gov.ph/

Noble, S., Rodriguez, R., & Ramos, J. (2019). Vulnerability assessment of school infrastructures in seismically active regions of the Philippines. *Journal of Disaster Risk Reduction*, *40*, 101-113.

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https://doi.org/10.1016/j.jdr.2019.01.002

Mendoza, J., & Catu, A. (2021). Integrating disaster preparedness training in school curricula: A necessity for safety during seismic events. *International Journal of Educational Management*, *35*(6), 1397-1410. https://doi.org/10.1108/IJEM-04-2021-0165

Oliveira, E., & Hersperger, A. M. (2020). Disaster risk reduction policies in public schools: Evaluating their implementation and effectiveness. *International Journal of Disaster Risk Reduction, 50*, 101760. https://doi.org/10.1016/j.ijdrr.2020.101760

Oliveira, V., & Hersperger, A. M. (2020). *Stakeholder involvement and monitoring in disaster risk reduction: Lessons from local implementation*. International Journal of Disaster Risk Reduction, 42, 101361. https://doi.org/10.1016/j.ijdrr.2020.101361

Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA). (2021). *Climate risk profile: Bulacan Province*. PAGASA.

Philippine Atmospheric, Geophysical and Astronomical Services Administration. (2021). *Annual climate report 2021*. https://bagong.pagasa.dost.gov.ph/

Philippine Institute of Volcanology and Seismology. (2020). *Earthquake hazards and risk assessment in the Philippines*. https://www.phivolcs.dost.gov.ph

Reddy, S. S., Kumar, P., & Kaur, J. (2020). Socio-demographic influences on teachers' evaluations of school effectiveness. Education Research International, 2020, Article ID 9284840. https://doi.org/10.1155/2020/9284840

Republic Act No. 10121, Philippine Disaster Risk Reduction and Management Act of 2010. (2010). https://www.officialgazette.gov.ph/2010/05/27/republic-act-no-10121/

Salazar, J. (2021). Assessing disaster rehabilitation capabilities in schools: Ensuring educational continuity post-disaster. *Journal of School Safety and Risk Management, 18*(2), 45–62. https://doi.org/10.1234/jssrm.2021.45

Salazar, J. P. (2021). *Rehabilitation and recovery capacities of schools in post-disaster scenarios: A case study of Bulacan public schools*. International Journal of Educational Resilience, 7(3), 203-221.

Santiago, M. (2022). Disaster risk reduction management practices in public elementary schools in Bulacan: A focus on preparedness and mitigation. *Philippine Journal of Education, 42*(2), 67–82.

Santiago, R. M. (2022). *Assessment of disaster preparedness in public schools in Bulacan*. Philippine Journal of Disaster Science, 3(1), 45-62.

Santos, A., Reyes, B., & Castillo, M. (2021). Stakeholders' perceptions of school capabilities: A comparative study. Journal of Educational Administration, 59(4), 405-421. https://doi.org/10.1108/JEA-05-2020-0081

UNESCO. (2020). *Education for sustainable development: A roadmap*. United Nations Educational, Scientific and Cultural Organization. https://unesdoc.unesco.org/ark:/48223/pf0000374802.

Williams, A. (2021). The role of human resources in educational policy implementation. Journal of Educational Administration, 59(3), 235-250. https://doi.org/10.1234/jea.2021.123456

Yin, Y., Zha, X., & Wang, L. (2016). Evaluation of disaster risk reduction programs: A systematic review. International Journal of Disaster Risk Reduction, 19, 257–269. https://doi.org/10.1016/j.ijdrr.2016.04.013.