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Preparedness, Practices and Challenges of Coordinators and School Heads on School Disaster Risk Reduction and Management Program

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ABSTRACT

This study determined the level of preparedness, extent of practices, and degree of challenges encountered by SDRRM Coordinators and School Heads in implementing the School Disaster Risk Reduction and Management Program (SDRRMP) in the District of La Castellana 1 and 2 during School Year 2020–2021 as basis for an enhancement plan. Using a descriptive research design, 30 SDRRM Coordinators and 30 School Heads responded to a self-made questionnaire, and the data were analyzed through frequency, percentage, mean, Mann-Whitney U test, and Spearman's rho. Findings revealed that respondents were mostly married, with graduate education and long service, and equally distributed by age. Schools demonstrated moderate preparedness in safe learning facilities, high preparedness in school disaster management, and very high in disaster risk reduction in education. The extent of SDRRMP practices was generally great across all areas, while the degree of challenges was moderate. Grouped analyses showed moderate preparedness in safe learning facilities and high in disaster management and risk reduction regardless of demographic variables. Practices were moderate to great, while challenges ranged from moderate to low depending on age, civil status, educational attainment, and length of service. Statistical tests showed no significant differences in most variables except selected areas of disaster risk reduction and educational attainment. Furthermore, no significant relationship existed between preparedness and challenges or practices and challenges; however, a significant relationship was found between preparedness and extent of practices, indicating that better preparedness supports stronger SDRRMP implementation.

Keywords: Disaster Risk Management Challenges, School Disaster Preparedness, SDRRM Implementation Practices

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INTRODUCTION

Disasters are emergencies that cannot be managed by affected individuals or communities without external assistance. They may be caused by natural or human-induced events that result in severe threats to life and property, disrupt social structures, and affect essential community functions. The Philippines is recognized as one of the most disaster-prone countries in the world, where frequent hazards pose significant risks not only to the safety of children but also to their education, economy, and psychological well-being. When disasters strike schools, the fundamental right of children to uninterrupted education is compromised, affecting learning continuity and overall development. These realities highlight the importance of strengthening disaster preparedness and resilience within the school system.

In response, the Department of Education promotes safe learning environments, effective school disaster management, and the integration of disaster risk reduction in education. School heads and SDRRM coordinators play a crucial role in implementing these programs and sharing best practices. However, public elementary schools in La Castellana remain vulnerable to both natural and human-induced hazards. Despite seminars and training conducted for stakeholders, preparedness must go beyond theoretical knowledge to actual implementation. Key challenges include the construction of school buildings without full compliance with earthquake safety standards, insufficient funding for activities and equipment, lack of functional fire extinguishers, limited basic life support skills, and inadequate emphasis on regular disaster drills. These concerns underscore the need for strengthened support systems and continuous program enhancement to ensure school safety and resilience.

It is on this premise, therefore, that the researcher undertook this study to determine the preparedness, practices and challenges in the implementation of Disaster Risk Reduction Management programs. Upon knowing the status of the implementation of Disaster Risk Reduction Management programs in the school, which as a result would cause to create a good intervention program, the vulnerability to calamities and perils are condensed.

OBJECTIVES OF THE STUDY

This study aimed to determine the level of preparedness, extent of practices and degree of challenges of Coordinators and School Heads on School Disaster Risk Reduction and Management Program (SDRRMP) in the District of La Castellana 1 & 2 during the School Year 2020-2021 as basis for an enhancement plan. Specifically, this study sought to answer the following questions: 1) the level of preparedness on the SDRRMP as assessed by the respondents according to the area of safe learning facilities, school disaster management, and disaster risk reduction in education; 2) extent of practices on the SDRRMP as assessed by the respondents when they are grouped according to the aforementioned areas; 3) the degree of challenges on the SDRRMP as assessed by the respondents when they are grouped according to the aforementioned areas; 4) the significant difference in the level of preparedness on the SDRRMP as assessed by the respondents when they are grouped and compared according to the aforementioned variables; 5) the significant difference in the extent of practices on the SDRRMP as assessed by the respondents when they are grouped and compared according to the aforementioned variables; and 6) the significant difference in the degree of challenges on the SDRRMP as assessed by the respondents when they are grouped and compared according to the aforementioned variables.

LITERATURE REVIEW

Disaster preparedness is a proactive, continuous process that involves forecasting hazards, implementing precautionary measures, and coordinating organized rescue, relief, and recovery efforts to reduce risks and protect lives and property (Ugdah, 2018; Quilope, 2019). It encompasses hazard assessment, public education, regular testing of warning and evacuation systems, risk mitigation, and stakeholder training, all aimed at ensuring effective response and rapid recovery (Twig, 2017; Pijawka & Radwan, 2017; Bogand, 2019 cited in McEntire, 2019). In schools, preparedness is critical for safeguarding learners and personnel, maintaining educational continuity, and fostering resilience, involving measures such as disaster plans, emergency supplies, drills, first aid training, functional safety equipment, and strong communication systems (Ozmen, 2017; Fothergill & Peek, 2020). Effective school disaster management also requires collaborative stakeholder involvement, continuous disaster risk reduction education, and alignment of school plans with national and local frameworks, with leadership from school management committees to ensure accountability and coordinated action (Ahmedabad, 2017; Linsagay, 2018; Lapuz, 2018). Ultimately, disaster preparedness integrates planning, training, logistics, healthcare, and institutional development to strengthen safety, resilience, and continuity of education while minimizing losses and improving recovery in the face of natural and human-induced hazards (Silvno, 2019; Pacheco, 2020; Tomaro, 2019).

Natural disasters may occur anytime and anywhere, and their devastating impacts are often intensified by vulnerable infrastructure and inadequate emergency response; thus, strengthening resilient structures and fostering a culture of safety are essential in reducing risks and protecting school communities (Sujarwo, 2018). Safe learning facilities promote security, comfort, and health among students and teachers in both normal and disaster situations, emphasizing not only structural resilience but also the ability

of school communities to respond effectively during emergencies (Shaw, 2017). This includes awareness of disaster signs, knowledge of evacuation procedures, and participation in regular drills and simulations to develop self-evacuation skills and reflex actions (Renaud, 2019; Tiong, 2018). Schools are also responsible for ensuring clear evacuation routes, signage, and organized emergency response to prevent panic and secondary impacts (Silve, 2017). Integrating disaster risk reduction into the curriculum, co-curricular activities, and awareness programs further enhances knowledge, resilience, and preparedness (Levine, 2016; Taylo, 2019; Plegvell, 2019). Effective disaster management requires continuous planning, strong leadership, and collaboration among stakeholders, with school principals playing a vital role in decision-making, policy implementation, and modeling safe practices (Fryler, 2010; Gael, 2016). Moreover, developing a safety culture involves sustained education, clear standard operating procedures, regular simulations, and active participation of all stakeholders to ensure sustainability, strengthen preparedness, and support school continuity even during disasters (Logan, 2017; Dean, 2018; Lyonde, 2017).

In the Philippines, the Disaster Risk Reduction and Management Act led the Department of Education to establish the Disaster Risk Reduction and Management Office as the focal unit for planning, coordinating, implementing, and monitoring disaster risk reduction, climate change adaptation, and education in emergencies, with designated focal persons at regional and division levels to ensure program effectiveness (Lacson, 2017). Schools are mandated to organize School DRRM Teams led by coordinators responsible for early warning systems, risk assessment, preparedness planning, safeguarding records, damage assessment, and facilitating recovery and class resumption, while School Division Offices provide technical support, monitor infrastructure safety, and coordinate emergency responses (Somaylo, 2017; Rabanal, 2017). To strengthen safe facilities, manuals, disaster-resilient designs, and temporary learning spaces were developed, and disaster risk reduction was integrated into the School Improvement Plan and curriculum, promoting evidence-based, child-centered, and community-based approaches in school safety (Parelejo, 2018; Bactas, 2019; Villamor, 2018). Partnerships with organizations enhanced school capacity through training, early warning systems, alternative learning delivery, and the creation of student emergency teams, which improved preparedness, drills, and continuity of education (Solinap, 2020; Delrosario, 2019; Velasco, 2019). Despite these initiatives, the need to scale up programs, strengthen coordination, sustain stakeholder engagement, align partner efforts, and address challenges such as personnel turnover remains essential in advancing comprehensive school safety and resilience in communities (Briones, 2019; Pacigado, 2019; Robles, 2017).

School districts worldwide face numerous challenges in emergency preparedness and disaster management, with one of the most significant being the lack of adequate physical, human, and financial resources, which limits prevention and response efforts (Banwill, 2018; Haskrata, 2018). Many initiatives on safe learning facilities focus mainly on reconstruction after disasters, while issues such as inconsistent site selection, impractical standardized designs, and limited retrofitting of aging school buildings in hazard-prone areas remain unresolved (Mc Bird, 2018; Gian, 2018; Loure, 2018). Disasters also disrupt education systems by damaging infrastructure, displacing teachers and students, destroying learning materials, and weakening institutional capacity, which can lead to academic setbacks, increased dropout rates, and reduced educational quality (International Recovery Platform, 2017; Sinclair, 2018; Pane et al., 2018; Redlener et al., 2020; Bronan, 2019). Furthermore, schools often serve as temporary shelters, affecting continuity of learning (Luke, 2018). Additional challenges include inadequate prioritization of risks, insufficient stakeholder involvement, weak local capacity, poor enforcement of policies, limited awareness, and lack of coordination and information sharing among stakeholders (Boyd, 2019; Méheux, 2018; Gero, 2018; Teeuw & Solana, 2020). Climate change integration, policy coordination, and sustained financial and political commitment also remain critical concerns, as competing national priorities often reduce support for disaster risk reduction efforts (Utaya & Utomo, 2019; Parham, 2020). These issues highlight the need for strengthened planning, local capacity building, collaboration, and sustainable investment to ensure effective school disaster risk reduction and educational continuity

Schools in the Philippines face multiple challenges in disaster risk reduction and management, including insufficient implementation of activities due to limited government capacity and public awareness, poor coordination among stakeholders, difficulties in securing political and financial commitment, and lack of information sharing (Solas, 2018). Local governments also struggle with mismatched institutional responsibilities and capacities, inadequate communication and warning systems, weak search and rescue, evacuation, relief, transportation, and health services, and low awareness of the Philippine Disaster Risk Reduction and Management Act (Commission on Audit, 2019; Soriano, 2019). Schools encounter additional issues such as uncoordinated donor support, inadequate resources including finances, personnel, infrastructure, and equipment, as well as physical vulnerabilities that increase susceptibility to disasters like earthquakes, floods, and landslides (Luna, 2020; Sayo, 2018). Specific problems reported include insufficient classrooms, lack of DRRM tools, clogged canals, damaged school properties, and limited LGU support, while coping measures often rely on temporary solutions like raising items, cleaning operations, and requesting rehabilitation assistance (Garcia, 2019; Arroyo, 2017). Furthermore, promoting knowledge, skills, and preparedness among teachers and students is critical for strengthening school disaster preparedness and resilience (Delgado, 2017).

METHODOLOGY

This section presents the discussion of the research methodology used, the subjects and respondents of the study, the research instruments used, the validity and reliability of the instruments, the procedure for data gathering, and the statistical tools and procedure for data analysis.

Research Design

This study employed a Descriptive Research Design, which is appropriate for examining the current state of a phenomenon and describing its characteristics (Gall & Borg, 2017). Utilizing survey questionnaires and documentary analysis, this design focuses on "what" rather than "how" or "why" events occur, making it suitable for assessing the level of preparedness, extent of practices, and challenges faced by SDRRM Coordinators and School Heads in the School Disaster Risk Reduction and Management Program (SDRRMP). Data were analyzed quantitatively using frequencies, percentages, averages, and other statistical tools to determine relationships and the influence of variables on one another, providing a clear picture of the conditions and interactions within the study context.

Study Respondents

The respondents of this study were the 30 SDRRMP Coordinators and 30 School Heads in all elementary schools of District of La Castellana 1 and 2, Division of Negros Occidental in school year 2020-2021. Due to a small number of populations of the SDRRMP Coordinators and School Heads, the researcher decided to include all the identified respondents. No sampling technique was utilized.

Instruments

In this study, data were gathered using a researcher-made survey questionnaire divided into two parts: Part I on respondents' profile, including age, civil status, educational attainment, and length of service as SDRRMP Coordinator and School Head, and Part II on the level of preparedness and extent of practices in the School Disaster Risk Reduction and Management Program (SDRRMP), with 15 items per major variable rated on a 1–5 Likert scale (1 = almost never to 5 = always). The instrument's validity was established through evaluation by five experts in Education and Research, including PhD holders and school administrators, using criteria adapted from Carter V. Good and Douglas E. Scates, resulting in a mean score of 4.85 interpreted as "excellent" (Cook, 2015). Reliability was assessed using Cronbach's Alpha on a pilot group of 15 SDRRMP Coordinators and 15 School Heads from the District of Moises Padilla, yielding coefficients of 0.922 for Level of Preparedness, 0.859 for Extent of Practices, and 0.867 for Degree of Challenges, interpreted as "excellent" and "good," indicating that the instrument is both valid and reliable for measuring the constructs under study (McGregor, 2016; Santos, 2016).

Data Gathering Procedure

Prior to administering the survey, the researcher secured permission from the Schools Division Superintendent, district supervisors, and consent from the selected elementary school principals and teachers who served as respondents. The questionnaire was administered personally and online via Google Forms to ensure accuracy, convenience, and full retrieval of responses, while maintaining confidentiality. An orientation was conducted to explain the study's objectives and guide respondents on completing the instrument. Collected data were then sent to a statistician for tabulation, application of appropriate statistical tools, and presentation in a structured and analyzable format.

Data Analysis and Statistical Treatment

Objective No. 1, the descriptive analytical scheme and mean was used to determine the level of preparedness of schools on the SDRRMP as assessed by the respondents according to the following areas: Safe learning facilities, School disaster management and Disaster risk reduction in education.

Objective No. 2, the descriptive analytical scheme and mean was also used to determine extent of practices on the SDRRMP as assessed by the respondents according to the aforementioned areas.

Objective No. 3, the descriptive analytical scheme and mean was also employed to determine degree of challenges on the SDRRMP as assessed by the respondents according to the aforementioned areas.

Objective No. 4, the comparative analytical scheme and Mann-Whitney U test was employed to determine whether or not there is a significant difference in the level of preparedness on the SDRRMP as assessed by the respondents when they are grouped and compared according to the aforementioned variables.

Objective No. 5, the comparative analytical scheme and Mann-Whitney U test was also employed to determine whether or not there is a significant difference in the extent of practices on the SDRRMP as assessed by the respondents when they are grouped and compared according to the aforementioned variables.

Objective No. 6, the comparative analytical scheme and Mann-Whitney U test was also employed to determine whether or not there is a significant difference in the degree of challenges on the SDRRMP as assessed by the respondents when they are grouped and compared according to the aforementioned variables.

Ethical Consideration

To protect the participants, the researcher emphasized voluntary participation, informed consent, risk of harm, confidentiality, and anonymity. Participants were asked to voluntarily sign a consent form, either by providing initials or an alias, and parental consent was also obtained. Even after agreeing, participants could withdraw at any time without explanation. Informed consent ensured participants were fully aware of the study's procedures and risks. The researcher took steps to avoid any harm, allowing participants to skip questions or withdraw at any time. Confidentiality was maintained by ensuring that identifying information remained accessible only to those directly involved in the study, and anonymity was upheld by using aliases or initials for all respondents.

RESULTS AND DISCUSSION

This section deals with the presentation, analysis and interpretation of data gathered to carry out the objectives of this study. All these were made possible by following certain appropriate procedures so as to give the exact data and solution to each specific problem.

Table 1

Level of preparedness on SDRRMP as assessed by the respondents when grouped according to Safe Learning Facilities, School Disaster Management and Disaster Risk Reduction in Education

Preparedness of schools		
Items	**Mean**	**Interpretation**
Safe learning facilities		
1. is relatively well prepared for a disaster.	3.03	Moderate level
2. prepare sufficient disaster supplies kit.	3.00	Moderate level
3. prepare enough number of charged ABC fire extinguisher.	2.70	Moderate level
4. set a specific evacuation area if disaster occurs.	4.53	Very high level
5. have posted emergency maps in prominent areas.	3.32	Moderate level
Overall Mean	**3.32**	**Moderate level**
School disaster management		
1. formulated a disaster evacuation plan.	4.40	High level
2. conduct fire drill within this year.	4.10	High level
3. demonstrate emergency exit drill twice a year.	4.52	Very high level
4. conduct orientation to learners, teachers and school personnel on the school disaster plan.	3.55	High level

5. set a disaster/emergency directory for quick response.	4.32	High level
Overall Mean	**4.18**	**High level**
Disaster risk reduction in education		
1. discuss disaster preparedness to learners, teachers and school personnel.	4.55	Very high level
2. have communicate knowledge on first aide to learners teachers and school personnel.	3.43	Moderate level
3. have teach knowledge on CPR to learners teachers and school personnel.	2.92	Moderate level
4. have develop a communication plan on disaster risk reduction management.	4.12	High level
5. have imparted enough knowledge in the utilization of fire extinguisher to learners teachers and school personnel.	3.53	High level
Overall Mean	**3.71**	**High level**

Table 1 presents the level of preparedness on SDRRMP as assessed by respondents across safe learning facilities, school disaster management, and disaster risk reduction in education. In safe learning facilities, the highest preparedness was in setting specific evacuation areas during disasters, while the lowest was in preparing enough charged ABC fire extinguishers, resulting in an overall moderate level. This indicates a lack of firefighting equipment due to limited financial resources, highlighting the need for support from Local Government Units for procurement and maintenance of safety equipment.

For school disaster management, the highest preparedness was in conducting emergency exit drills, while the lowest was in orienting learners, teachers, and staff on the school disaster plan, with an overall high level. This suggests a need for more comprehensive orientation programs for internal stakeholders to clarify their roles during disasters. In disaster risk reduction in education, the highest preparedness was in discussing disaster preparedness with learners and staff, whereas the lowest was in teaching CPR, resulting in an overall high level. This points to a gap in basic life support training, emphasizing the importance of seminars, demonstrations, and orientations to equip all school members with essential disaster response skills.

Table 2

Extent of Practices on SDRRMP as assessed by the respondents when grouped according to Safe Learning Facilities, School Disaster Management and Disaster Risk Reduction in Education

Practices of Schools		
Items	**Mean**	**Interpretation**
Safe learning facilities		
1. have develop a strong warning system in place for fires that will set off alarms throughout the school.	3.02	Moderate extent
2. have posted building floor plan or blueprints in prominent areas to help firefighters navigate the school in case of fire.	3.13	Moderate extent
3. set a safe evacuation site ready to accommodate the evacuees.	4.33	Great extent
4. have designed classrooms and offices with doors open outwards.	3.57	Great extent
5. have designed classrooms with two exits whenever necessary.	3.53	Great extent
Overall Mean	**3.52**	**Great extent**
School disaster management		
1. have posted fire exit signage and maps in prominent area of the school buildings.	3.98	Great extent

2. have set mechanism to facilitate the immediate transfer of equipment and important documents to higher ground in case of disasters.	3.53	Great extent
3. have created school disaster management committee to oversee disaster risk reduction and preparedness.	4.50	Very great extent
4. have design a disaster management plan suited for the number of people to be evacuated.	4.18	Great extent
5. have set communication facilities on hand to coordinate with local government units in emergency cases like earthquake, fire, flood and volcanic eruption.	3.13	Moderate extent
Overall Mean	**3.87**	**Great extent**
Disaster risk reduction in education		
1. conduct orientation on disaster risk management in case of disaster at the beginning of the school year.	3.25	Moderate extent
2. conduct regular fire, locked down & earthquake drills at least once a year.	3.40	Moderate extent
3. acquainted learners with safety procedures: stop, drop and roll, walk, do not run, keep calm, follow evacuation routes during disasters.	4.67	Very great extent
4. conduct a student-led hazard mapping every year.	4.42	Great extent
5. have an updated contact numbers of the parents or guardians.	4.43	Great extent
Overall Mean	**4.03**	**Great extent**

Table 2 presents the extent of School Disaster Risk Reduction and Management Plan (SDRRMP) practices as assessed by respondents in terms of safe learning facilities, school disaster management, and disaster risk reduction in education. For safe learning facilities, the highest mean score (4.33), interpreted as great extent, was obtained by the item stating that the SDRRMP Coordinator or School Head sets a safe evacuation site ready to accommodate evacuees. The lowest mean score (3.02), interpreted as moderate extent, referred to the development of a strong fire warning system with alarms throughout the school. The overall mean of 3.52 indicates a great extent of practice. The lower rating on warning systems suggests limited budget allocation and insufficient knowledge regarding fire warning devices. Strengthening awareness and providing orientation on the development of school-based and local early warning systems may enhance these practices. As noted by Renaud (2019), disaster preparedness improves when school community members understand disaster warning signs and are trained to respond quickly through self-evacuation.

In terms of school disaster management, the highest mean score (4.50), interpreted as very great extent, indicated that school heads created a disaster management committee to oversee preparedness activities. The lowest mean (3.13), interpreted as moderate extent, referred to the availability of communication facilities to coordinate with local government units during emergencies, suggesting limited resources. Meanwhile, under disaster risk reduction in education, the highest mean score (4.67), interpreted as very great extent, showed that learners were well acquainted with safety procedures such as "stop, drop, and roll" and proper evacuation behavior. The lowest mean (3.25), interpreted as moderate extent, referred to conducting disaster risk management orientations at the beginning of the school year, which may have been overlooked due to preparations for Brigada Eskwela. Strengthening communication systems and integrating disaster management orientation at the start of the school year may improve preparedness. These findings align with Lacson (2017), who emphasized coordination with government agencies, and Broone (2019), who highlighted the importance of integrating disaster preparedness planning and education within the school system.

Table 3

Degree of Challenges on SDRRMP as assessed by the respondents when grouped according to Safe Learning Facilities, School Disaster Management and Disaster Risk Reduction in Education

Challenges of schools		
Items	**Mean**	**Interpretation**
Safe learning facilities		

1. have not secured functional equipment to be utilized during disaster.	3.33	Moderate Degree
2. have not set functional facilities to support the implementation of SDRRMP.	2.83	Moderate Degree
3. have no comprehensive SDRRM plan.	1.87	Low Degree
4. did not set the school ready for disasters.	2.78	Moderate Degree
5. have not rehabilitated dilapidated building structures.	2.30	Low Degree
Overall Mean	**2.62**	**Moderate Degree**
School disaster management		
1. have not allocate sufficient budget for the implementation of SDRRMP.	3.67	High Degree
2. have not encourage school personnel to engage and support SDRRM program.	1.98	Low Degree
3. have not encourage the community and other external stakeholders to participate in the implementation of SDRRM program.	2.50	Moderate Degree
4. have no support from LGU.	3.40	Moderate Degree
5. have no coordination with local DRRM Council and other agencies.	1.87	Low Degree
Overall Mean	**2.68**	**Moderate Degree**
Disaster risk reduction in education		
1. did not conduct SDRRMP awareness orientation to personnel & learners.	1.80	Low Degree
2. did not provide trainings for teachers and school personnel on SDRRMP.	3.63	High Degree
3. did not conduct disaster drill like fire, earthquake, volcanic eruption and locked down drills.	1.45	Very low Degree
4. did not involve learners and parents in SDRRMP implementation.	1.70	Low Degree
5. did not integrate SDRRMP in the curriculum.	4.00	High Degree
Overall Mean	**2.52**	**Moderate Degree**

Table 3 presents the extent of challenges encountered in the implementation of the School Disaster Risk Reduction and Management Plan (SDRRMP) as assessed by the respondents in terms of safe learning facilities, school disaster management, and disaster risk reduction in education. For safe learning facilities, the highest mean score indicated a moderate degree of challenge, referring to the lack of secured functional disaster equipment, while the lowest mean score (1.87), interpreted as low degree, indicated that most schools already have a comprehensive SDRRM plan. The overall mean of 2.62 suggests a moderate level of challenges, mainly due to insufficient budget and limited financial support from local government units, which hinder the procurement of disaster preparedness equipment. This finding aligns with Wayne (2018), who emphasized that disaster risk reduction efforts are often constrained by limited resources and insufficient institutional commitment.

In terms of school disaster management, the highest mean score (3.67), interpreted as high degree, revealed that insufficient budget allocation remains a major challenge in implementing SDRRMP, while lack of coordination with the local DRRM Council received a low degree rating, indicating that collaboration with external agencies generally exists. The overall mean of 2.68 reflects a moderate degree of challenge, largely attributed to financial constraints. Meanwhile, for disaster risk reduction in education, the highest mean score (4.00), interpreted as high degree, showed that SDRRMP is not fully integrated into the curriculum due to limited knowledge on how to incorporate it into subject areas, although disaster drills were regularly conducted, as indicated by the very low challenge rating (1.45). The overall mean of 2.52 suggests moderate challenges in educational integration. These

findings support Gobson (2018), who noted that inconsistent DRR interventions and lack of standardized approaches make it difficult for schools to integrate disaster risk reduction concepts into teaching and learning activities.

Table 4

Difference in the Level of Preparedness on the SDRRMP as assessed by the Respondents in the Area of Safe Learning Facilities According to Variables

Safe learning facilities							
Variables	**Categories**	**N**	**Mean Rank**	**Mann Whitney U - test**	**Sig. Level**	***p*-value**	**Interpretation**
Age	Younger	30	30.47	449.00	0.05	0.988	Not Significant
	Older	30	30.53				
Civil Status	Single	19	32.76	346.50		0.488	Not Significant
	Married	41	29.45				
Highest Educational Attainment	Lower	29	32.29	397.50		0.435	Not Significant
	Higher	31	28.82				
Length of Service	Shorter	28	30.30	442.50		0.934	Not Significant
	Longer	32	30.67				

Table 4 presents the respondents' level of preparedness on the SDRRMP in the area of safe learning facilities, analyzed according to demographic variables. Using the Mann-Whitney U test, results showed no significant differences by age (p = 0.988), civil status (p = 0.488), highest educational attainment (p = 0.435), or length of service (p = 0.934), all exceeding the 0.05 significance level, leading to the acceptance of the null hypothesis. This indicates that respondents' profiles did not influence their preparedness in safe learning facilities, as all respondents fulfilled their responsibilities in implementing the DRRMP. These findings align with Sergantes (2017), which similarly reported no significant differences in school heads' disaster risk reduction preparedness.

Table 5

Difference in the Level of Preparedness on the SDRRMP as assessed by the Respondents in the School Disaster Management According to Variables

School disaster							
Variables	**Categories**	**N**	**Mean Rank**	**Mann Whitney U - test**	**Sig. Level**	***p*-value**	**Interpretation**
Age	Younger	30	28.03	376.00	0.05	0.268	Not Significant
	Older	30	32.97				
Civil Status	Single	19	31.42	372.00		0.778	Not Significant
	Married	41	30.07				
Highest Educational Attainment	Lower	29	28.03	378.00		0.285	Not Significant
	Higher	31	32.81				
Length of Service	Shorter	28	28.23	384.50		0.341	Not Significant
	Longer	32	32.48				

Table 5 shows the difference in the level of preparedness on the SDRRMP as assessed by the respondents in the school disaster management and when they grouped and compared according to variables. Age obtained a *p*-value of 0.268, civil status, 0.778, highest educational attainment, 0.285 and length of service 0.341 which is greater than 0.05 level of significance. The result indicates that no significant difference exists. The null hypothesis is therefore Accepted.

It can be said that the profile of the respondents does not influence their level of preparedness in the area of School disaster management. Although they may not be able to perfectly perform their responsibilities in some areas, they were able to render their expertise for acquiring positive result in the implementation of DRRMP regardless of their profile.

Contrary to the result of the study, Juntado (2017), a significant difference was noted in the level of school disaster management according to profile.

Table 6

Difference in the Level of Preparedness on the SDRRMP as assessed by the Respondents in the Area of Disaster Risk Reduction in Education According to Variables

Disaster Risk Reduction in Education							
Variables	**Categories**	**N**	**Mean Rank**	**Mann Whitney U - test**	**Sig. Level**	***p*-value**	**Interpretation**
Age	Younger	30	25.75	307.50	0.05	0.034	Significant
	Older	30	35.25				
Civil Status	Single	19	27.97	341.50		0.442	Not Significant
	Married	41	31.67				
Highest Educational Attainment	Lower	29	27.45	361.00		0.187	Not Significant
	Higher	31	33.35				
Length of Service	Shorter	28	25.21	300.00		0.027	Significant
	Longer	32	35.12				

Table 6 shows the difference in the level of preparedness on the SDRRMP as assessed by the respondents in the area of disaster risk reduction in education and when they grouped and compared according to variables.In terms of age and length of service, it obtained a *p* value of 0.034 and 0.027which is lower than 0.05 level of significance indicating a significant difference exist. The null hypothesis is rejected.

In terms of civil status and educational attainment, it obtained a *p* value of 0.442 and 0.187 which was greater than 0.05 level of significance indicating that no significant difference exists. The null hypothesis in this regard is therefore Accepted.It can be said that the age and length of service of the respondents influence their level of preparedness in the area of disaster risk reduction in education. Since younger respondents are more responsive than their counterpart. Same with those that has a longer length of service where they are more adept on the implementation of the DRRMP. The study of Hafuncia (2017), revealed the same result with the present study, he found out that the preparedness of the school administrators with the DRRMP varies according to age, length of service and educational attainment.

Table 7

Difference in the Extent of Practices on the SDRRMP as assessed by the Respondents in the Area of Safe Learning Facilities According to Variables

Safe learning facilities							
Variables	**Categories**	**N**	**Mean Rank**	**Mann Whitney U - test**	**Sig. Level**	***p*-value**	**Interpretation**
Age	Younger	30	31.43	422.00	0.05	0.677	Not Significant
	Older	30	29.57				
Civil Status	Single	19	31.82	364.50		0.690	Not Significant
	Married	41	29.89				
Highest Educational Attainment	Lower	29	26.21	325.00		0.064	Not Significant
	Higher	31	34.52				
Length of Service	Shorter	28	30.46	447.00		0.988	Not Significant
	Longer	32	30.53				

Table 7 shows the difference in the extent of practices on the SDRRMP as assessed by the respondents in the area of safe learning facilities and when they grouped and compared according to variables. Using the Mann Whitney U test the *p* values obtained according to the profile variables was 0.677, 0.690, 0.064 and 0.988, which is greater than the 0.05 level of significance indicating the difference was not significant. The null hypothesis is therefore Accepted.The result implies that there was no significant difference in the extent of practices on the SDRRMP as assessed by the respondents in the area of safe learning facilities and when they grouped and compared according to variables. It can be said that the school coordinators manifest high level of

practices in the implementation of DRRMP regardless of their profile. School heads and administrators manifested a great extent of practices on the SDRRMP.

The study of Gallego (2018) supported the result of the present study. His study was on the level of preparedness and practices of school heads on the school-based disaster risk reduction management. The result showed that the profile of the school heads does not affect the extent of practices in DRRRM.

Table 8

Difference in the Extent of Practices on the SDRRMP as assessed by the Respondents in the Area of School Disaster Management According to Variables

School disaster							
Variables	**Categories**	**N**	**Mean Rank**	**Mann Whitney U - test**	**Sig. Level**	***p*-value**	**Interpretation**
Age	Younger	30	29.33	415.00	0.05	0.601	Not Significant
	Older	30	31.67				
Civil Status	Single	19	26.32	310.00		0.201	Not Significant
	Married	41	32.44				
Highest Educational Attainment	Lower	29	25.14	294.00		0.020	Significant
	Higher	31	35.52				
Length of Service	Shorter	28	29.05	407.50		0.544	Not Significant
	Longer	32	31.77				

Table 8 presents the respondents' extent of practices on the SDRRMP in school disaster management, analyzed by demographic variables. Results showed no significant differences for age (p = 0.601), civil status (p = 0.201), or length of service (p = 0.544), leading to acceptance of the null hypothesis. However, educational attainment yielded a significant p value of 0.020, indicating that respondents' level of education influenced their SDRRMP practices, with those holding higher educational qualifications demonstrating greater competence and expertise. This aligns with prior research showing that educational attainment positively affects disaster management practices (Rosenthal, Kane, Rockoff, Goldhaber, & Anthony, 2017), and that higher education equips school heads with skills and opportunities that enhance their capacity to respond to crises effectively (Flores, 2017).

Table 9
Difference in the Extent of Practices on the SDRRMP as assessed by the Respondents in the Area of Disaster Risk Reduction in Education According to Variables

Disaster Risk Reduction in Education							
Variables	**Categories**	**N**	**Mean Rank**	**Mann Whitney U - test**	**Sig. Level**	***p*-value**	**Interpretation**
Age	Younger	30	27.42	357.500	0.05	0.162	Not Significant
	Older	30	33.58				
Civil Status	Single	19	28.29	347.500		0.495	Not Significant
	Married	41	31.52				
Highest Educational Attainment	Lower	29	25.90	316.000		0.040	Significant
	Higher	31	34.81				
Length of Service	Shorter	28	26.09	324.500		0.062	Not Significant
	Longer	32	34.36				

Table 9 shows the difference in the extent of practices on the SDRRMP as assessed by the respondents in the area of disaster risk reduction in education and when they are grouped and compared according to variables. Age, civil status, length of service obtained a *p* value of 0.162, 0.495 and 0.062 which is greater than the 0.05 level of significance indicating that no significant difference exists. In this regard, the null hypothesis is Accepted. In the contrary, highest educational attainment obtained a *p* value of 0.040 which is lower than the 0.05 level of significance indicating that a significant difference exists. The null hypothesis is Rejected. The result indicated that the educational attainment of the respondents influences their extent of practices on the SDRRMP in the area of disaster risk reduction in education. On the contrary, the age, civil status, length of service dos not affects their extent of practices on the SDRRMP in the area of disaster risk reduction in education.

The findings agree with Neirves (2018) that best practices in disaster risk reduction in education is positively associated with student gains throughout the implementation of the SDRERMP. As school heads gain higher educational attainment, the teachers and their students are more likely to do better on other measures of success beyond disaster risk reduction.

Table 10

Difference in the Degree of Challenges on the SDRRMP as assessed by the Respondents in the Area of Safe Learning Facilities According to Variables

Safe learning facilities							
Variables	**Categories**	**N**	**Mean Rank**	**Mann Whitney U - test**	**Sig. Level**	***p*-value**	**Interpretation**
Age	Younger	30	33.78	351.50	0.05	0.140	Not Significant
	Older	30	27.22				
Civil Status	Single	19	31.87	363.50		0.677	Not Significant
	Married	41	29.87				
Highest Educational Attainment	Lower	29	33.50	362.50		0.195	Not Significant
	Higher	31	27.69				
Length of Service	Shorter	28	33.54	363.00		0.205	Not Significant
	Longer	32	27.84				

Table 10 show the difference in the degree of challenges on the SDRRMP as assessed by the respondents in the area of safe learning facilities and when they are grouped and compared according to variables.Using Mann Whitney U test, age, civil status, highest educational attainment and length of service obtained a *p* value of 0.140, 0.677, 0.195 and 0.205 which is greater than the 0.05 level of significance indicating that no significant difference exist. The null hypothesis is Accepted.

It can be said that the degree of challenges on the SDRRMP by the respondents in the area of safe learning facilities is not influenced by their profile. School Administrators and Coordinators have performed their function well in the implementation of SDRRMP despite financial constraints in the procurement of safe learning facilities. The findings of the study agree to Yurga (2015) that safe learning facilities requires a broad-based effort by the entire school personnel and by adopting a comprehensive approach to addressing school safety during disaster. The degree of challenges in the implementation of disaster risk reduction management program in the area of safe learning facilities was not attributed to their profile.

Table 11

Difference in the Degree of Challenges on the SDRRMP as assessed by the Respondents in the Area of School Disaster Management According to Variables

School Disaster management							
Variables	**Categories**	**N**	**Mean Rank**	**Mann Whitney U - test**	**Sig. Level**	***p*-value**	**Interpretation**
Age	Younger	30	33.72	353.500	0.05	0.149	Not Significant
	Older	30	27.28				
Civil Status	Single	19	31.95	362.000		0.659	Not Significant
	Married	41	29.83				
Highest Educational Attainment	Lower	29	35.02	318.500		0.050	Significant
	Higher	31	26.27				
Length of Service	Shorter	28	31.96	407.000		0.539	Not Significant
	Longer	32	29.22				

Table 11 presents the difference in the degree of challenges on the SDRRMP as assessed by the respondents in the area of school disaster management and when they are grouped and compared according to variables. Using Mann Whitney U test, age, civil status and length of service obtained a *p* value of 0.149, 0.659 and 0.539 which was greater than 0.05 level of significance. The null hypothesis is Accepted. On the contrary, highest educational attainment obtained a *p* value of 0.050 which was lower than the 0.05 level of significance indicating that a significant difference exists. The null hypothesis is Rejected. The result indicates that there is no significant difference in the degree of challenges on the SDRRMP as assessed by the respondents in the area of school disaster management when they are grouped and compared according to age, civil status and length of service.

In the contrary, a significant difference exists in the degree of challenges on the SDRRMP as assessed by the respondents in the area of school disaster management when they are grouped and compared according to highest educational attainment. It can be said that the extent of challenges of respondents in the area of school disaster management with higher educational attainment differs from their counterpart. The findings are relative to the study of Goods (2015) that in the implementation of the DRRMP educational attainment of the school heads made them at par among others specifically in challenges they encountered during risk management. It can be said that the higher the educational level of the school heads the lesser the degree of challenges they perceived.

Table 12

Difference in the Degree of Challenges on the SDRRMP as assessed by the Respondents in the Areas of Disaster Risk Reduction in Education According to Variables

Disaster Risk Reduction in Education							
Variables	**Categories**	**N**	**Mean Rank**	**Mann Whitney U - test**	**Sig. Level**	***p*-value**	**Interpretation**
Age	Younger	30	32.28	396.500	0.05	0.421	Not Significant
	Older	30	28.72				
Civil Status	Single	19	26.24	308.500		0.190	Not Significant
	Married	41	32.48				
Highest Educational Attainment	Lower	29	33.74	355.500		0.157	Not Significant
	Higher	31	27.47				
Length of Service	Shorter	28	32.55	390.500		0.386	Not Significant
	Longer	32	28.70				

Table 12 presents the respondents' degree of challenges on the SDRRMP in disaster risk reduction in education, analyzed by demographic variables. Mann-Whitney U tests showed no significant differences for age ($p = 0.421$), civil status ($p = 0.190$), highest educational attainment ($p = 0.157$), or length of service ($p = 0.386$), leading to acceptance of the null hypothesis. This indicates that the challenges encountered were consistent across respondents' profiles, suggesting that demographic factors did not influence the high level of difficulties in implementing disaster risk reduction in education. These findings are consistent with Develve (2018), which similarly reported that respondents' profiles do not affect the challenges faced in this area.

CONCLUSION

The study revealed that SDRRMP Coordinators and School Heads of La Castellana 1 and 2 during the 2020–2021 school year were equally composed of younger and older respondents, predominantly married, with Master's or PhD degrees, and generally long-serving. Overall, the level of preparedness was moderate in safe learning facilities, high in school disaster management, and very high in disaster risk reduction in education, while the extent of practices was great across all areas, and challenges were mostly moderate. When analyzed by profile, age and length of service influenced preparedness in disaster risk reduction in education, and educational attainment influenced practices in school disaster management and risk reduction, but other variables showed no significant effect. No significant relationships were found between preparedness or practices and challenges, but a significant positive relationship existed between preparedness and practices. In conclusion, school heads and coordinators demonstrated high preparedness and exceptional practices in implementing SDRRMP, showing competence and commitment in disaster management despite moderate challenges, with preparedness closely linked to the effective execution of their roles and responsibilities.

RECOMMENDATIONS

The study revealed that preparedness in the district was weakest in safe learning facilities, particularly in the availability and functionality of fire-fighting equipment, while school disaster management and disaster risk reduction in education received more attention. To address gaps, it is recommended that schools initiate programs such as "Brigada Kalamidad" and "Piso Para Sa Kalamidad" to fund and maintain functional equipment, assign personnel to monitor resources, and ensure sufficient budget allocation through the School Improvement Plan. Disaster management practices should include seminars, drills, and awareness programs such as "BUHAY MO, PANGALAGAAN KO" and "PUSO KO, INGATAN MO" to enhance knowledge and skills in disaster response, CPR, communication, and early warning systems. Schools are encouraged to integrate SDRRMP into the

curriculum, promote safety culture through co-curricular activities, and provide teacher training on risk reduction methodologies. Sustainability and monitoring plans such as "Towards Better, Sustainable and Disaster Ready School" and yearly enrichment programs like "Kaalaman Ko: Kaligtasan Mo" are recommended to ensure continuous improvement, coordination with LGUs, and effective implementation of disaster preparedness and response across all school stakeholders.

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Conflict of Interest

The authors declare no conflict of interest related to the conduct, authorship, and publication of this research. All procedures and interpretations were performed independently, and no financial, professional, or personal relationships influenced the results of this study.

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