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RESEARCH ARTICLE

SCHOOL RESILIENCE IN THE FACE OF DISASTER RISK: AWARENESS, CHALLENGES AND COPING MECHANISMS

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Abstract

This study investigated the preparedness levels and practices of educational institutions in the Cordillera Administrative Region, particularly in response to natural disasters such as earthquakes and typhoons. Schools play a crucial role in community resilience, serving as centers for information dissemination and support during emergencies. The research aimed to assess disaster preparedness, awareness, and coping mechanisms among students, teachers, and administrators. Employing a mixed-methods approach, the study gathered data through surveys, interviews, and educational assessments. Participants included 31 administrative personnel, 327 College of Teacher Education students, and 15 NSTP instructors. The study examined the relationship between disaster risk reduction and management (DRRM) awareness and demographic profiles, identifying key challenges faced during and after disasters. The Input, Process, and Output (IPO) framework was used to evaluate school resilience across thematic areas such as Disaster Prevention and Mitigation, Preparedness, Response, and Rehabilitation. Findings revealed varying levels of preparedness, with gaps in DRRM awareness and implementation. Schools demonstrated strengths in response mechanisms but required improvements in long-term mitigation strategies. Additionally, coping strategies differed among stakeholders, highlighting the need for tailored interventions. The study underscores the importance of integrating comprehensive disaster risk reduction measures in educational institutions to enhance resilience and safeguard school communities. By providing valuable insights into school preparedness, this research contributes to policy development and the improvement of DRRM programs. Strengthening awareness, readiness, and response capabilities can significantly enhance the safety and well-being of students, teachers, and administrators in disaster-prone regions.

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INTRODUCTION

Disaster risk is the potential loss of life, injuries, or damage to assets that can occur within a specific period due to hazardous events. In this study, it directly addresses the essence of disaster risk by evaluating how schools can cope with and mitigate potential losses, emphasizing the need for comprehensive awareness, preparedness, and management strategies in the face of natural disasters to ensure the safety and well-being of students and school communities.

On the other hand, resilience, in the context of disaster risk, is the ability of a system, community, or society exposed to hazards to withstand, adapt to, and recover from the impacts of a disaster efficiently and promptly. It embodies the core principles of resilience in disaster management highlighting the importance of schools being prepared, responsive, and equipped with strategies to cope with and recover from disasters promptly and efficiently, without compromising their long-term prospects. The Cordillera Administrative Region (CAR) has faced significant challenges due to disasters, such as the powerful earthquake in 1990 and the recent impact of Typhoon Doksuri (Egay). The earthquake of 1990, with its epicenter located 25 kilometers below the surface and 103 kilometers southeast of Baguio, caused widespread devastation, including structural damage, landslides, and ground ruptures. Subsequently, Typhoon Doksuri brought about floods and landslides, resulting in human casualties. These events underscore the critical importance of effective disaster preparedness and mitigation strategies in the CAR.

Understanding disaster risk and resilience is fundamental for developing strategies that can mitigate the impact of disasters, protect communities, and support sustainable development in regions prone to such calamities like in Cordillera. Schools which locations are vulnerable to disasters, such as in CAR contribute significantly to lowering the danger of disaster. They provide education, safety, shelter, emergency plans, psychosocial support, community engagement, and ensure educational continuity during and after disasters. Yet, little is known about how resilient these institutions are and how well-prepared they are for calamities of this kind.

Using a mixed-methods approach, which includes surveys, interviews, and educational assessments, the research involved 31 administrative personnel, 327 College of Teacher Education students, and 15 NSTP instructors. The study contributed to existing research by providing a comprehensive examination of preparedness levels, practices, and challenges within an educational setting, emphasizing the importance of disaster risk reduction and mitigation measures. The study revealed that the university demonstrated high resilience, with both teachers and students exhibiting moderate to high awareness of Disaster Risk Reduction and Management (DRRM). However, no significant correlation was found between awareness levels and factors like income, educational attainment, or academic performance.

The study identified challenges faced during and after disasters, such as connectivity issues for teachers, compliance difficulties for students, and transportation mobility issues for both. Teachers primarily relied on empathy as a coping mechanism, while students leaned towards optimism. Based on these findings, the study recommends continued investment in resilience programs, tailored DRRM awareness programs, curriculum integration of its principles, establishment of support systems for teachers and students, coping mechanism training, and expanded community engagement in disaster preparedness and response

efforts. These recommendations aim to strengthen the university's resilience, enhance disaster preparedness, and provide adequate support for both teachers and students during challenging times.

METHODOLOGY

The researcher used a mixed-methods research design. The researcher utilized a mixed-methods research design, implementing the Input, Process, and Output (IPO) evaluation model to assess the school's resiliency towards disaster risk across four thematic areas. The study involved quantitative methods and a descriptive design to evaluate the status of resiliency and the awareness levels of teachers and students regarding disaster risk in the Cordillera Administrative Region. The research was conducted at Benguet State University-La Trinidad Campus, involving 31 administrative personnel, 16 NSTP teachers, and 327 fourth-year students from the College of Teacher Education. Sampling procedures included purposive convenient sampling and total enumeration, with a focus on understanding challenges faced by teachers and students during and after disasters. Data was gathered through adapted rating scales and questionnaires, validated by local DRRM experts, and interviews were conducted to supplement responses. The analysis involved the weighted mean and percentage to interpret the results, including Spearman correlations to establish relationships between variables. The study aimed to determine the school's resilience and the awareness, challenges coping mechanisms in disaster risk.

RESULTS AND DISCUSSION

School's Resilience to DRRM in Terms of Disaster Prevention and Mitigation
Table 1. shows the school's resilience to DRRM in terms of disaster prevention and mitigation. It provides descriptive statistics of the teachers' level of awareness of Disaster Risk Reduction and Management (DRRM) in terms of disaster prevention and mitigation. The table includes various statements related to DRRM and their corresponding mean scores and standard deviations (SD). The remarks column provides an interpretation of the awareness level based on the mean scores.

Table 1. Descriptive Statistics of the School's resilience to DRRM in Terms of Disaster Prevention and Mitigation

Statements	Mean	SD	Remarks
DRRM and CCA mainstreamed and integrated in the University development policies, plans and budget	3.81	0.79	H
DRRM and CCA-sensitive environmental management in the university	3.87	0.80	H
Adherence of university infrastructures to the provisions of National Building Code and other green and resilient infrastructure developments	3.90	0.79	H
Presence of scientific DRRM and CCA assessment, mapping and evaluation efforts in the university	3.77	0.80	H
University operations includes access to effective and applicable disaster risk financing and insurance	3.68	0.87	H
Availability of University booklets/flyers consisting of the 4 elements of EWS such as risk knowledge, monitoring & warning, dissemination & communication and response capability.	3.55	0.85	H
Disaster Prevention and Mitigation	3.76	0.82	H

n = 31   4.50-5.00 Very High (VH)   3.50-4.49 High (H)   2.50-3.49 Moderately High (MH)
                1.50-2.49 Low (L)   Below 1.50 Very Low (VL)

The mean score for the adherence of university infrastructures to the provisions of the National Building Code and other green and resilient infrastructure developments scored 3.90 with a standard deviation of 0.79, showing a high level of compliance (H). The availability of University booklets/flyers consisting of the four elements of Early Warning Systems (EWS) scored 3.55 with a standard deviation of 0.85, indicating a high level of availability (H). Thus, the table shows that the university has a high level of resilience to DRRM in terms of Disaster Prevention and Mitigation, as evidenced by the high scores across various indicators in the study.

The respondents in the survey were interviewed and Personnel A, when asked about their experiences during a disaster, replied:

> *"Nu kalla nga adda iti kasta nga bagyu, dadduma kanyami, mapan talaga dituy school para i-check kung may mga nabagyo o nasira ma'am. Kalla kasapulan mi agreport nu anya napasamak. Alerto talaga kami ma'am kapag may bagyo, talagang nagse-safety rin kami ng gamit dito sa admin". (If ever there is a typhoon, we usually go to school to check any casualties Ma'am. We need to report any findings. We are alert and secure safety of the equipment here in admin"*

Personnel B also answered:

> *"Kapag ganyan na nakaka-experience po kami ng disaster, may mga designated areas po tayo dito sa school as evacuation area. Gaya noong may lindol, nagpo proceed po kami sa open area o grounds para sa safety rin po. Mabuti na lang at maluwang po ang school."(Whenever we experience disaster, there are designated areas here in the school as evacuation area. Just like the recent earthquake, we proceeded to the open area or grounds for safety purpose. Good thing, the school is spacious)*

Schools' Resilience to DRRM in Terms of Disaster Preparedness

Table 2 presents the descriptive statistics of the teachers' level of awareness of Disaster Risk Reduction and Management (DRRM) in terms of disaster preparedness. It includes the mean and standard deviation (SD) values for each statement, as well as corresponding remarks.

Table 2. Descriptive Statistics of the School's resilience to DRRM in Terms of Disaster Preparedness

Statements	Mean	SD	Remarks
Increased level of awareness and enhanced capacity of the university to the threats and impacts of all hazards	4.0	0.77	H
University personnel, faculty and students are equipped with necessary skills and capability to cope with the impacts of disasters	3.81	0.83	H
Trainings and seminars to increase university DRRM and CCA capacity in cooperation to the Local DRRM unit	3.97	0.98	H
Development and implementation of comprehensive university preparedness and response policies, plans, and systems	3.48	0.81	MH
Implementation of activities to strengthen partnership and coordination of the university among all key players and stakeholders in order to mitigate the effect of hazard.	4.0	0.77	H
Disaster Preparedness	3.85	0.83	H

n = 31   4.50-5.00 Very High (VH)   3.50-4.49 High (H)   2.50-3.49 Moderately High (MH)
          1.50-2.49 Low (L)   Below 1.50 Very Low (VL)

As a result, the university has shown an increased level of awareness and enhanced capacity for the threats and impacts of all hazards, with a mean score of 4.0 and a standard deviation of 0.77, indicating a high level of preparedness (H). The university has developed and implemented comprehensive preparedness and response policies, plans, and systems, scoring 3.48 with a standard deviation of 0.81, indicating a moderately high level of preparedness (MH). Therefore, the school's disaster preparedness level is 3.85 with a standard deviation of 0.83, categorizing it as very high (VH) based on the result. Anent these positive outcomes, future studies could focus on evaluating the actual implementation and effectiveness of these preparedness measures during real-life incidents. Additionally, research could be conducted to assess the sustainability of the university's preparedness initiatives over time and their adaptability to evolving threats and challenges. On the other hand, studies that aim to challenge or negate these findings could investigate potential gaps or shortcomings in the university's preparedness strategies. By identifying areas of improvement or vulnerabilities, such research could provide valuable insights for enhancing the overall disaster preparedness of the institution.

Schools' Resilience to DRRM in Terms of Disaster Response

Disaster Response as one of the four thematic areas of DRRM is shown in Table 3 relative to the Resilience of School. It presents the descriptive statistics of the teachers' level of awareness of Disaster Risk Reduction and Management (DRRM) in terms of disaster response. The table includes several statements related to different aspects of disaster response, along with their corresponding mean scores and standard deviations (SD).

Table 3. Descriptive Statistics of the School's resilience to DRRM in Terms of Disaster Response

Statements	Mean	SD	Remarks
Well-established university disaster response operations	3.52	0.81	H
Adequate and prompt university DRRM unit in the assessment of needs and damages at all levels during disasters	3.71	0.86	H
Personnel, faculty and students' involvement in the integrated and coordinated Search, Rescue and Retrieval (SRR) capacity	3.55	0.89	H
Provides safe temporary shelters for the affected University personnel and students and support timely evacuation	3.74	0.85	H
Temporary shelter is evident within the vicinity of the university	3.90	0.91	H
Provision of social services to the disaster victims such as university feeding programs, donations, and the like (whether inside or outside evacuation centers)	3.97	0.88	H
Implementation of activities such as university counseling or seminars to address psychosocial needs of directly and indirectly affected due to disaster	3.64	0.93	H
Coordinated and university integrated system on early recovery implementation	3.52	1.02	H
Disaster Response	3.69	0.875	H

n = 31   4.50-5.00 Very High (VH)   3.50-4.49 High (H)   2.50-3.49 Moderately High (MH)
          1.50-2.49 Low (L)   Below 1.50 Very Low (VL)

Based on the result of the data gathered, the university has well-established disaster response operations, with a mean score of 3.52 and a standard deviation of 0.81, indicating

a high level of readiness (H). It also offers social services to disaster victims, including feeding programs and donations, both inside and outside evacuation centers, with a mean score of 3.97 and a standard deviation of 0.88, showing a high level of assistance (H). Thus, the Disaster Response aspect of the school's resilience to DRRM is rated with a mean score of 3.69 and a standard deviation of 0.875, indicating a high level of preparedness and effectiveness (H). It resulted that the university demonstrates a high level of resilience in Disaster Response, with various measures in place to ensure the safety, well-being, and recovery of its community members during times of disasters.

Schools' Resilience to DRRM in Terms of Disaster Rehabilitation and Recovery

The next table describes the Resilience of Schools to DRRM in terms of Disaster Rehabilitation and Recovery which is shown in Table 4. The conduct of university guidance counseling activities for students and teachers to ensure a psychologically sound, safe, and secure learning environment that can recover to normal functioning after each disaster has a mean score of 3.84 with a standard deviation of 1.16, reflecting a high level of resilience (H). However, on the rebuilding of university establishments or their repair to be more resilient to hazard events and provide safer sites for learning and work it has a mean score of 3.33 and a standard deviation of 0.95, indicating a moderately high level of resilience (MH). Also, compliance with the "Build Back Better" Program, which focuses on rebuilding and recovering after a disaster in a way that enhances resilience and addresses vulnerabilities, has a mean score of 3.71 with a standard deviation of 0.94, showing a high level of resilience (H). Therefore, the school demonstrates a commendable level of resilience in terms of Disaster Rehabilitation and Recovery, with most indicators falling within the high to moderately high resilience categories based on the results of the gathered data.

Schools' Resilience to DRRM

Table shows the Resilience of Schools to DRRM composing the four thematic areas which include, Disaster Prevention and Mitigation, Disaster Preparedness, Disaster Response, Disaster Rehabilitation and Recovery.

Table 4. Summary Descriptive Statistics of the School's resilience to DRRM

Thematic Areas	Mean	SD	Remarks
Disaster Prevention and Mitigation	3.76	0.82	H
Disaster Preparedness	3.85	0.83	H
Disaster Response	3.69	0.87	H
Disaster Rehabilitation and Recovery	3.61	0.96	H
Resilience to DRRM	3.73	0.87	**H**

n = 31   4.50-5.00 Very High (VH)   3.50-4.49 High (H)   2.50-3.49 Moderately High (MH)
            1.50-2.49 Low (L)   Below 1.50 Very Low (VL)

As a result, it is shown that the school's resilience to DRRM across four thematic areas, namely; Disaster Prevention and Mitigation, Disaster Preparedness, Disaster Response, and Disaster Rehabilitation and Recovery. The mean score for disaster preparedness is 3.85 with a standard deviation of 0.83, which results in a high level of readiness and preparedness for potential disasters Hence, for Disaster Rehabilitation and Recovery is 3.61 with a standard deviation of 0.96, indicating a high level of effectiveness in the rehabilitation and recovery phase after a disaster. Thus, the school demonstrates a high level of resilience to DRRM across all thematic areas, with mean scores ranging from 3.61 to 3.85. The overall resilience to DRRM, indicated by a mean score of 3.73, reflects the school's proactive measures in disaster prevention, preparedness, response, and recovery. With a total

sample size of 31, the school's resilience falls within the "High" category based on the provided scale, signifying a commendable level of preparedness and effectiveness in managing disaster risks.

Teachers' Awareness on DRRM

Table 5 shows the teacher's level of awareness of DRRM composing the four thematic areas which include, Disaster Prevention and Mitigation, Disaster Preparedness, Disaster Response, Disaster Rehabilitation, and Recovery.

Table 5. Summary Descriptive Statistics of the Teachers' Level of Awareness to DRRM

	Min	Max	Mean	SD	Sk	Kur	Remarks
Disaster Prevention and Mitigation	1.00	4.67	2.81	0.89	0.21	0.47	MA
Disaster Preparedness	2.00	4.80	2.95	0.90	0.64	-0.77	MA
Disaster Response	1.13	4.13	2.78	0.90	-0.10	-1.06	MA
Disaster Rehabilitation and Recovery	1.00	4.17	2.90	0.97	-0.45	-0.98	MA
DRRM Awareness	1.28	4.40	2.86	0.86	0.11	-0.65	MA

n = 16   4.50-5.00 Highly Aware (HA)   3.50-4.49 Aware (A)   2.50-3.49 Moderately Aware (MA)
1.50-2.49 Slightly Aware (SA)   Below 1.50 Unaware (U)

In Disaster Response, the mean awareness level is 2.78 with an SD of 0.90, placing teachers within the Moderately Aware (MA) range. The skewness (-0.10) and kurtosis (-1.06) values indicate a relatively symmetrical but flatter distribution. Similarly, in Disaster Preparedness, teachers' awareness levels are moderate, reflected by a mean of 2.95 and an SD of 0.90. The skewness (0.64) and kurtosis (-0.77) values suggest a slightly positively skewed distribution. Therefore, teachers demonstrate a consistent moderate level of awareness across the various dimensions of DRRM, with variability in individual responses. The skewness and kurtosis values suggest generally normal or slightly skewed distributions in the awareness levels.

Students' Awareness of DRRM

The student's level of awareness of DRRM is shown in Table 6 , students are Moderately Aware of the disaster risk and reduction management conducted in the school. The descriptive statistics, including the mean, standard deviation (SD), skewness (Sk), and kurtosis (Ku), offer insights into students' perceptions of different aspects related to DRRM as shown in Table 3. For the concepts of rehabilitation and recovery, students exhibit a moderately high awareness with a mean score of 3.43 and a SD of 1.08. The skewness (-0.39) and kurtosis (-0.34) values indicate a slightly negatively skewed distribution. Understanding the importance of rehabilitation and recovery, students demonstrate a high level of awareness with a mean score of 3.98 and an SD of 0.99. The skewness (-0.90) and kurtosis (0.33) suggest a negatively skewed distribution. Therefore, the collective mean for DRRM Awareness among students is 3.82, placing their awareness level within the Moderately Aware (MA) category. The skewness (-0.32) and kurtosis (-0.31) values indicate a slightly negatively skewed distribution. These findings suggest a generally high to moderately high level of awareness among students in various dimensions of DRRM, with variability in individual responses. The negatively skewed distributions imply a tendency for students to have higher awareness levels in these aspects.

Students' awareness of DRRM and selected variables

A significant relationship result among the students' awareness compared to their academic performance and the monthly income of parents is shown in Table 6. It has shown the Spearman rho correlation analysis of students' awareness of Disaster Risk Reduction and Management (DRRM) and selected variables, namely Annual Income and Academic Performance.

Table 6. Correlation Analysis of the Students' Awareness of DRRM and Selected Variables

Variables	Correleation Coefficent	p- values	Analysis	Significance
Annual Income vs Academic Performance	-0.039	0.481	p > 0.05	NS
Annual Income vs DRRM Awareness of Students	-0.025	0.658	p > 0.05	NS
Academic Performance vs DRRM Awareness of Students	-0.085	0.127	p > 0.05	NS

n = 327 , Sig. 0.05 (2-tailed)

Based on Table 6, the correlation coefficient between Annual Income and Academic Performance is -0.039 with a p-value of 0.481, suggesting a weak negative correlation that is not statistically significant. Also, the correlation coefficient between Annual Income and DRRM Awareness of Students is -0.025 with a p-value of 0.658, indicating a very weak negative correlation that is not statistically significant. Thus, the correlation coefficient between Academic Performance and DRRM Awareness of Students is -0.085 with a p-value of 0.127, suggesting a weak negative correlation that is also not statistically significant. Therefore, based on the result, there is no significant relationship observed between Annual Income, Academic Performance, and DRRM Awareness of Students.

Teachers' Awareness of DRRM and their Aggregate Income

Table 7 presents the correlation analysis of teachers' awareness of Disaster Risk Reduction and Management (DRRM) with aggregate income. The table includes correlations between DRRM awareness and four key variables: Disaster Prevention and Mitigation, Disaster Preparedness, Disaster Response, Disaster Rehabilitation, and Recovery.

Table 7. Correlation Analysis of the Teachers' Awareness of DRRM and their aggregate income

Variables	Correleation Coefficent	p- values	Analysis	Significance
Aggregate Income vs Disaster Prevention and Mitigation	-0.137	0.612	p > 0.05	NS
Aggregate Income vs Disaster Preparedness	-0.083	0.76	p > 0.05	NS
Aggregate Income vs Disaster Response	-0.164	0.543	p > 0.05	NS
Aggregate Income vs Disaster Rehabilitation and Recovery	-0.233	0.385	p > 0.05	NS
Aggregate Income vs Disaster Awareness	**-0.15**	**0.578**	**p > 0.05**	**NS**

n = 15 , Sig. 0.05 (2-tailed)

Based on the result, the correlation analysis between teachers' awareness of Disaster Risk Reduction and Management (DRRM) and their aggregate income showed no significant relationship. The correlation coefficients between aggregate income and various aspects of DRRM, including disaster prevention and mitigation, disaster preparedness, disaster response, disaster rehabilitation and recovery, and disaster awareness, ranged from -0.083 to -0.233. With p-values greater than 0.05 for all variables, the analysis indicates that the correlation is not statistically significant. This suggests that there is no strong association between teachers' awareness of DRRM and their aggregate income based on the data collected from a sample size of 15 participants. Thus, it was revealed that non-significant relationships across various aspects of disaster management. Specifically, there were no statistically significant correlations found between teachers' aggregate income and their awareness levels in disaster prevention and mitigation, preparedness, response, rehabilitation, and recovery, as well as disaster awareness. These findings, based on a sample size of 15 and a significance level of 0.05, suggest that income levels do not have a significant influence on teachers' awareness of DRRM.

Teachers' Awareness of DRRM and their Educational Attainment

Table 8 shows the correlation analysis between teachers' awareness of Disaster Risk Reduction and Management (DRRM) and their educational attainment. The analysis includes various variables and their correlation coefficients, p-values, analysis results, and significance levels.

Table 8. Correlation Analysis of the Teachers' Awareness of DRRM and their educational attainment.

Variables	Correleation Coefficent	p- values	Analysis	Significance
Educational Attainment vs Disaster Prevention and Mitigation	0.23	0.409	p > 0.05	NS
Educational Attainment vs Disaster Preparedness	0.363	0.183	p > 0.05	NS
Educational Attainment vs Disaster Response	0.427	0.113	p > 0.05	NS
Educational Attainment vs Disaster Rehabilitation and Recovery	0.459	0.085	p > 0.05	NS
Educational Attainment vs Disaster Awareness	**0.426**	**0.114**	**p > 0.05**	**NS**

n = 15 , Sig. 0.05 (2-tailed)

The correlation coefficient is 0.426 with a p-value of 0.114, indicating a moderate positive correlation. Similar to the other aspects, the p-value is not significant (greater than 0.05), suggesting no significant relationship between educational attainment and disaster awareness. Therefore, it was shown that among the 15 teachers, there is no significant correlation between their educational attainment and various aspects of Disaster Risk Reduction and Management awareness at the 0.05 significance level in a two-tailed test.

Teachers' Awareness of DRRM and their Length of Service

Results of a correlation analysis between teachers' awareness of Disaster Risk Reduction and Management (DRRM) and their length of service are shown in Table 9. The analysis includes the correlation coefficient, p-values, and the significance of the relationships.

Table 9. Correlation Analysis of the Teachers' Awareness of DRRM and their length of service

Variables	Correlation Coeffcient	p-values	Analysis	Significance
Length of Service vs Disaster Prevention and Mitigation	-0.404	0.135	p > 0.05	NS
Length of Service vs Disaster Preparedness	-0.375	0.169	p > 0.05	NS
Length of Service vs Disaster Response	-0.543	0.037	p < 0.05	S
Length of Service vs Disaster Rehabilitation and Recovery	-0.481	0.07	p > 0.05	NS
Length of Service vs Disaster Awareness	**-0.495**	**0.061**	**p > 0.05**	**NS**

n = 15 , Sig. 0.05 (2-tailed)

Based on the result on the length of service, the correlation coefficient was -0.495 with a p-value of 0.061, signifying a non-significant relationship.Therefore, the results indicate that there is a significant negative correlation between the length of service and teachers' awareness of Disaster Response, while the relationships with other aspects of DRRM were not statistically significant. Overall, the result was to reject the hypothesis that, there is no significant relationship between the teachers' DRRM awareness and their length of service.

Challenges faced by Teachers During Disasters

In an interview conducted by the researcher, several challenges faced by teachers were identified. These are shown in the table below. Ten NSTP instructors were interviewed, and they shared their challenges during disasters. Some of their responses were common and are summarized in Table 10.

Table 10. Challenges faced by Teachers during Disaster

Challenges	Frequency (10 Teachers)
Safety Concerns	7
Limited Communication and Connectivity	9
Pending Workload which leads to re-structured timeline/s	9
Monitoring of School/College Properties (i.e., TV, Desktop Unit, windows, IMs, etc.)	8
Student Monitoring especially those who are in remote areas	8

The provided result appears to be a summary of a survey or study conducted among 10 teachers regarding the challenges they face during disasters. Each challenge is listed along with the frequency with which it was mentioned by the surveyed teachers.

Seven out of the 10 teachers mentioned safety concerns as a significant challenge during disasters. Safety concerns could encompass various aspects, such as the physical safety of teachers and students, the safety of the school infrastructure, and emergency preparedness. The majority of teachers (9 out of 10) expressed challenges related to communication and connectivity during disasters. This could involve difficulties in reaching out to students, parents, or school authorities, especially if communication channels are disrupted. Additionally, the workload faced by teachers during and after disasters is a concern for 9 out of the 10 surveyed teachers. This includes tasks that may accumulate during the disaster and the need to restructure timelines to manage the workload effectively. Eight teachers mentioned challenges related to monitoring school or college properties during disasters. This includes keeping track of various assets like TVs, desktop units, windows, and instant messaging systems to ensure they are secure and functioning

properly. Student monitoring, particularly in remote areas, is a challenge for 8 out of the 10 teachers. This suggests that ensuring the well-being and academic progress of students, especially those in areas more susceptible to the impact of disasters, is a significant concern. These results provide insights into the specific challenges faced by teachers during disasters, as reported by a small sample of 10 teachers. Addressing these challenges may be crucial for enhancing disaster preparedness and response in educational settings. According to Teacher A, when asked what challenges she faces during disasters, she said:

"Yung pag reach-out sa mga bata Ma'am kung kumusta po ba sila? Nagsesend ako sa GC kapag may signal ako para lang malaman ko kailangan nila ng tulong lalo na yung mga nasa malalayong lugar" (On how I reach-out to my students Ma"am if how are they? I send messages to our Group Chat when I got signal to know whether they need help mos specially those who are living afar)

Teacher B answered this when asked on how you ensure the safety and emotional well-being of their students during a disaster

"Ako ma'am, hinihintay ko po na mag voice out yung bata kasi hndi natin alam kung kaylan sila magiging komportableng mag-open up. Base sa experience ko, mas mabuting sila yung mismong mag reach out while, we indirectly, as a teacher, telling them that my door is open whenever they need someone to talk with especially when we are talking na sa mental health. Very vital kasi yan mam. Kaya hindi ko sila pinapangunahan.that is how I treat my students. "(I wait for the student to open up until they are ready 'cause we cannot pursue them whenever we want. Base on my experience, it is better for them to reach out while, we indirectly, as a teacher, telling them that my door is open whenever they need someone to talk with especially when we talk about mental health. This is very vital that is why I can't be preemptive.That is how I treat my students.)

Challenges faced by teachers after disasters
In a similar vein, the instructors were interviewed and talked about their difficulties or challenges after disasters. A few have standard responses, which are compiled in Table 11.

Table 11. Challenges Faced by Teachers after Disasters

Challenges	**Frequency (10 Teachers)**
Transportation	9
Lack of Power supply	8
Adjustments and considerations are given to the students	8
Engagement on Health and wellness activities	7
Unable to submit timely reports and meet deadlines due to backlogs	8
Uncertainty and Anxiety	7

After disasters, teachers face a range of challenges that impact their ability to fulfill their roles effectively. Among a group of 10 teachers, the most common challenges reported include transportation difficulties (9 out of 10 teachers), lack of power supply (8 out of 10), adjustments and considerations for students (8 out of 10), engagement in health and wellness activities (7 out of 10), inability to submit timely reports and meet deadlines due to backlogs (8 out of 10), and feelings of uncertainty and anxiety (7 out of 10). These findings underscore the complex and demanding nature of the post-disaster environment for

educators, highlighting the need for support and resources to address these challenges effectively.

Challenges faced by students during disasters

Some of the challenges that students encounter during disasters are listed in the table below, derived from interviews conducted by the researcher. Twenty-one (21) students were interviewed, and they talked about the difficulties they faced in times of calamity. A few have standard responses, which are compiled in Table 12.

Table 12. Challenges faced by Students during Disaster

Challenges	**Frequency (21 Students)**
Food shortage	17
Loss of Livelihood	15
Anxiety or emotional distress	18
Difficulty in School compliances	19
Safety concerns	14
Struggle in securing resources	13
Loss of Water Supply	13
Loss of Electrical Supply	10
Difficulty in Food Access	13
Unprepared	12

Table 12 shown that during disasters, students encounter a range of challenges that significantly impact their well-being and academic pursuits. The most prevalent challenges reported by the 21 students surveyed include food shortage, with 17 students facing difficulties in accessing an adequate food supply. Additionally, emotional distress and anxiety were widespread, affecting 18 students, highlighting the psychological toll of disasters on young individuals. Moreover, issues related to school compliance and difficulty in meeting academic requirements were reported by 19 students, indicating disruptions in their educational routines. Safety concerns, struggles in securing resources, and loss of water supply were also prominent challenges faced by 14 to 13 students, respectively. The loss of livelihood and electrical supply affected 15 and 10 students, respectively, underscoring the broader impact of disasters on students' daily lives. Thus, the findings revealed the urgent need for support and resources to address the diverse needs of students in disaster-affected areas.

Challenges faced by students after disasters

The researcher also recognized some of the challenges that the students experienced in an interview, and the results are displayed in the table below. The same number of students also participated in an interview where they discussed their respective challenges after a disaster. A summary of common responses for some is provided in Table 13.

Table 13. Challenges faced by Students after Disaster

Challenges	Frequency (21 Students)
Financial support	18
Lack of Power supply	19
Compliance on academic requirements	17
Traumatic experience	17
Transportation Mobility	19
Difficulty in home Repairs	17
Struggle in Clean Water accessibility	15
Lack of Support System	10
Lack of medicine	10
Empathy to Parents	9

These findings shed light on the difficulties that pupils encounter in the wake of disasters as well as the coping strategies used by teachers. To improve instructors' and students' resilience in these kinds of circumstances, the research points to the necessity of focused interventions and support networks. This data can direct the creation of plans to successfully solve the issues that have been discovered.

Coping mechanisms employed by teachers to overcome Disaster impacts

Some of the coping mechanisms used by teachers to overcome the effects of disasters were identified during a researcher interview, and these are displayed in the table below. Ten NSTP instructors were surveyed and asked about their coping mechanisms; some of them had similar responses, which are listed in Table 14.

Table 14. Coping Mechanisms Employed by Teachers to Overcome Disaster Impacts

Coping Mechanisms	Frequency (10 Teachers)
Conduct of First Aid Trainings	7
Disaster-response training engagement	8
Motivates the students	8
Employing considerations and empathy to students	9
Build strong support	7

These educators use a range of coping strategies, from more emotionally focused tactics like motivation and empathy to more practically oriented ones like first aid instruction. In an educational setting, it demonstrates a comprehensive strategy for mitigating the effects of disasters.

Coping mechanisms employed by students to overcome Disaster impacts

In an interview with a researcher, some of the coping strategies students employed to deal with the aftermath of disasters were noted; these are shown in the table below. A survey was conducted with 21 students regarding their coping mechanisms; a few responded similarly, and their responses are shown in Table 15.

Tablem 15. Coping Mechanisms Employed by Students to Overcome Disaster Impacts

Coping Mechanisms	Frequency (21 Students)
Power of Prayer	15
By being Passive or "Go-with-the-flow" mindset	18
Neglecting undesirable disaster experience	17

Optimism	19
Sports engagement for diversion	15

The frequencies linked to each coping strategy are intriguing because they shed light on how common these tactics are among the students who were polled. All things considered, it appears that the students' typical methods for coping with the effects of disasters include a combination of religious/spiritual coping, passive acceptance, selective attention, and optimistic thinking. According to student X when asked how he felt supported by your teachers and school to overcome disaster impact:

> *"May mga binibigay po minsan ang school sa amin lalo sa mga identified na naapektohan ma'am. Kasi nagtatanong po sila sa amin thru messenger kung sino po yung mga nasairaan ng bahay o kabuhayan. May binibigay po sila gaya ng binhi. Kaya kahit papaano, nabubuhayan po kami ng loob."(There are relief goods given to those who are affected. "cause they are asking us thru messenger if who among us have casualties, in our home or livelihood. They are giving us seeds that is why, we are relived somehow"*

Student Y also answered:

> *"Ina advise san po kami na ituloy lang yung pag-aaral. Lalo po noong nasira na yung tanim ng parents ko. Mahirap pero kailangan parin naming tumayo mula doon sa pagkadapa naming yun. Kaya tini treat lang po nmin sya as challenge. Think positive lang Ma'am" (They are advising us to pursue our studies. Especially when my parents' crop were destroyed. It is hard but we need to rise up from falling. That is why, we just treating it as a challenge. Think positive.)*

Likewise, student Z shared:

> *Minsan, nasanay narin po kasi kami lalo kapag may Low Pressure nanaman sa balita. Kaya parang wala na lang." (Sometimes, we've gotten used to it, especially when there's another Low Pressure system in the news. So, it's like we just shrug it off)*

CONCLUSION

The university displayed remarkable resilience, highlighting its capacity to endure and bounce back from challenges effectively. To further bolster this resilience, investing in programs that enhance resilience among both staff and students would be beneficial. Teachers exhibited a consistently moderate level of awareness, while students showed a high to moderately high level of awareness on Disaster Risk Reduction and Management (DRRM). Tailored awareness initiatives for teachers and students could be developed by the university to deepen their understanding of DRRM. Interestingly, for teachers, no significant correlation was found between their awareness levels in DRRM and factors such as Aggregate Income, Educational Attainment, or Length of Service, suggesting the importance of integrating DRRM principles into the curriculum universally. Similarly, for students, there was no notable relationship observed between their awareness of DRRM and Annual Income, Academic Performance, or a combination of both. The challenges faced by both teachers and students during and post-disasters are diverse and impactful, encompassing safety concerns, communication barriers, resource shortages, and emotional distress. Teachers grapple with challenges in workload management, transportation, and sustaining essential services, while students face issues like food scarcity, academic disruptions, and emotional trauma. Establishing support systems within the university to aid teachers and students in navigating these challenges post-disaster is crucial, involving provisions for mental health support, resource accessibility, and fostering open communication. The coping mechanisms employed by teachers and students reflect a blend of emotional resilience, practical preparedness, and community support,

emphasizing the need for a comprehensive disaster management approach within educational settings. Offering training on coping mechanisms for both teachers and students could be a valuable step for the university to consider.

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