

Community Engagement, Disaster Risk Reduction Management Practices, School Safety and Preparedness of Public Schools

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ABSTRACT

This study focused on community engagement, Disaster Risk Reduction and Management (DRRM) practices, and the level of school safety and preparedness in public schools in the Division of Bohol, Congressional District II. It explored the experiences and perceptions of stakeholders, examined how DRRM practices are implemented, and determined how these factors relate to school safety and preparedness. The study utilized both qualitative and quantitative research through a convergent parallel mixed-method design. 300 school heads participated in a quantitative data survey through questionnaires. Semi-structured interviews were used with 15 sample participants (composed of both school heads and barangay captains/DRRM focal persons) to gain qualitative survey information. The qualitative data was analyzed thematically according to Braun & Clarke's framework, and the quantitative data was analyzed using descriptive and inferential statistics (Pearson correlation). Results of the study indicated that schools show a general level of active community engagement and consistent implementation of DRRM practices across each of the four phases. The level of school safety and preparedness was also found to be high (WM = 3.29). Despite the existence of barriers to achieving total safety and preparedness (e.g., limited resources), these factors include the variation of social support systems, (lessening) the need for increased stakeholder input. Further correlation analyses indicated that the integration of DRR practices, community engagement and safety levels at schools ($p < 0.001$) yielded significant correlations. Therefore, this study recommends that stakeholders strengthen collaboration, provide frequent training/capacity-building opportunities, improve their current safety planning efforts, ensure adequate resources/technical support from the Department of Education, and conduct further research to confirm the results of this study and identify additional factors that may continue to promote long-term disaster resilience in schools.

Keywords: Disaster Risk Reduction and Management (DRRM), Community Engagement, School Safety and Preparedness, Convergent Parallel Mixed-Methods, Disaster Resilience

INTRODUCTION

In the Philippines, there are many disasters that occur globally every year. As one of the most disaster-prone countries on Earth, the Philippines has suffered from typhoons, earthquakes and flooding. Many of the country's communities utilize schools as evacuation centers during disasters and emergencies, making schools the center of the community and putting them at increased risk of damage.

Since Republic Act No. 10121 was enacted, the government has been trying to improve Disaster Risk Reduction and Management [DRRM] efforts. However, due to a variety of issues, DRRM implementation in Schools still faces multiple obstacles. As of now, according to the most recent report issued by the Department of Education (DO 56 s. 2024), 239 out of 377,000 primary and secondary school students are attending schools that fall into the "very high risk" category, while 4,771 schools are categorized as "high risk", which translates to approximately 3.9 million students being affected by the high-risk designation of their current educational institution.

Finally, while Republic Act No. 10821 requires local government units to provide safe evacuation centers during disasters, there are still too many communities presently relying on schools because of limited evacuation center facilities. This can cause classroom disruptions, and further, can threaten the safety of children.

The concerns outlined above are demonstrated through the situation in Bohol Province. The weaknesses in disaster preparedness and infrastructure were exposed through both the 2013 earthquake and Typhoon Odette that occurred in 2021. Although policies exist, such as DepEd Order No. 21, s. 2015, the majority of the rural schools reported difficulties in sustaining effective disaster risk reduction and management (DRRM) practices. This demonstrates a disconnect between the policy as stated versus what is implemented at schools.

In relation to these issues, the current research will examine the correlation between school-based DRRM and levels of community involvement with public schools located in Bohol. Unlike other studies which analyze urban or national data, the present study has concentrated solely on rural schools, utilizing information from key local stakeholders (e.g., parents, local government units and first responders) as the data source. Their level of involvement will be significant in improving school safety and disaster preparedness.

Limited preparedness can result in serious consequences, including risks to life, interruptions in learning, and long-term effects on children's development. By identifying existing strengths and areas for improvement, this study aims to contribute to the development of safer, more resilient schools and communities, where learners are protected, and schools are better equipped to respond to disasters.

METHODOLOGY

The research project utilized a converging parallel mixed-methods research design to investigate the types of practices being implemented at the public schools of Bohol with respect to Disaster Risk Reduction and Management (DRRM). The mixed-methods approach allowed for data to be collected and analyzed simultaneously in both quantitative and qualitative fashion, thus contributing to a more thorough understanding of the issues related to school safety, school preparedness, and the level of community involvement with DRRM efforts.

Qualitative data was gathered through semi-structured interviews with School DRRM Coordinators, School Administrators, and Barangay DRRM Coordinators so that their thoughts and experiences on DRRM implementation could be recorded. In contrast, quantitative data was gathered through a structured survey questionnaire issued to the School Administrators, with the purpose of assessing levels of DRRM activity and preparedness.

Both types of data were analyzed separately before being triangulated, thereby increasing both the reliability and amount of information gained through the study.

The research was conducted within Congressional District II of the Bohol Division, which is an area affected by regular occurrences of disaster, including earthquakes and flooding. Purposive sampling was used to select DRRM practitioners for the study. A total of 15 participants provided qualitative data, while 300 School Administrators were surveyed, thereby providing a basis for determination of how schools are implementing DRRM in regard to working with local communities, implementing DRRM in schools, preparing schools for emergencies, and creating infrastructure for emergency management. By selecting this sample of respondents to participate in the study, we were able to collect qualitative and quantitative data that can be used to describe actual DRRM practices across both schools and communities.

Data was collected via validated research instruments. Interviews using appropriate structuring instruments, semi-structured questionnaires, and Likert-type questions were used in conducting this research. Additionally, ethical standards were followed in all stages of the research, including receiving pre-informed consent before starting any study phase, voluntary participation and confidentiality were required to be met as per the Data Privacy Act (2012). The methods of data collection included both in-person and online data collection methods (interviewing participants and administering the printed and survey forms through digital means). The method

utilized for analyzing the qualitative data was thematic analysis, and descriptive statistics and Pearson correlation were utilized to analyze quantitative data for determining relationships among variables.

The combination of the qualitative and quantitative findings provided a clearer and fuller picture of (1) DRRM practices, (2) community engagement, and (3) school safety and preparedness. The results of this study will provide strong evidence for developing and implementing recommendations and an action plan that will improve disaster resilience for schools and their surrounding communities.

RESULTS AND DISCUSSION

The chapter includes the description, analysis, and understanding of the data that was collected on: Community Engagement; Disaster Risk Reduction and Management (DRRM) Practices, and School Safety and Preparedness within the Public Schools of Division of Bohol– Congressional District II. A convergent parallel Mixed-Methods occurred for the current study; therefore, both qualitative and quantitative data were collected separately and had been previously analyzed, and may now be triangulated in this chapter. Qualitative data have shown more in-depth experiences and perspectives, while quantitative data were utilized for reporting on measurable levels of DRRM Practices, Community Engagement, and School Safety/Preparedness.

Thematic Analysis of Stakeholders’ Experiences and Perceptions on Community Engagement in School-Based Disaster Risk Reduction and Management (DRRM)

Table 1 n=8

Theme	Codes	Participant Quotes
1. Active Awareness and Information Dissemination	drills and campaigns; IEC materials; early warning systems; multi-channel communication	<p>Informant 1 shared that, “School and Youth awareness campaigns like earthquake & fire drills & for the community-based like first aid and emergency response training & community evacuation drills.”</p> <p>Informant 5 noted that, “Assign a committee on communication and warning” “Early warning & advisory dissemination campaigns—standardizing the use of radios, megaphones, SMS/chat groups, and house to house rekorida, aligned with RA 10121/NDRRMP guidance on public awareness and early warning.”</p>
2. Strong Multi-Stakeholder Collaboration	joint planning; involvement of LGUs and agencies; shared DRRM structures; MOAs	<p>Informant 6 explained that, “School DRRM focal joins the BDRRMC and aligns school plans with the barangay DRRM plan (risk maps, early warning, evacuation).”</p> <p>Informant 8 pointed out that, “Adunay MOA sa paggamit sa eskwelahan isip evacuation site uban sa mga pamalaod sa DSWD sa camp coordination ug camp management.”</p>
3. Capacity Building Enhances Preparedness	DRRM trainings; first aid/BLS; fire safety; drills; skill development	<p>Informant 7 highlighted that, “First Aid & Basic Life Support (BLS). Batches for teachers, BHWs, tanods, and youth leaders with TaRSIER 117/DOH, including bystander CPR and choking response.”</p> <p>Informant 8 emphasized that, “Fire safety & extinguisher practicum with BFP (proper use of extinguishers, fire-watch protocols, evacuation routes).”</p>

<p>4. Volunteerism and Community Participation</p>	<p>Community volunteers; youth involvement; DRRM clubs; motivation through leadership</p>	<p>Informant 6 highlighted that, “Ang DRRM clubs sa estudyante ug SK volunteers motabang sa mga drill sa eskwelahan, signage, ug peer IEC uban sa School DRRM Focal ug BDRRMC.”</p> <p>Informant 8 pointed out that, “Community First-Aid/BLS volunteers (teachers, BHWs, tanods, youth) trained with TaRSIER 117/DOH or Philippine Red Cross, ready to provide bystander CPR and basic life-saving care.”</p>
<p>5. Community-Based Risk Assessment and Local Knowledge</p>	<p>hazard mapping; household surveys; vulnerability identification; local insights</p>	<p>Informant 5 highlighted that, “Komunidad-uban nga hazard mapping ug transect walks palibot sa eskwelahan ug duol nga purok, kauban ang MDRRMO/OCD-7; nagmugna og mapa sa baha, hangin, linog, ug sunog.”</p> <p>Informant 7 pointed out that, “Household risk survey uban sa mga magtutudlo ug BHWs aron mailhan ang PWDs, mabdos, ug mga estudyanteng nanginahanglan og escort ug prayoridad nga sakyanan.”</p>
<p>6. Resource Constraints and Operational Challenges</p>	<p>limited funding; logistics issues; procurement delays; lack of equipment</p>	<p>Informant 5 shared that, “Limitado ang pondo kumpara sa panginahanglan; naa ang 5% LDRRMF apan daghan kaayo ang kinahanglanon sa upat ka thematic area”</p> <p>“Informant 7 highlighted that, “Logistics ang hagit tungod sa gilapdon sa lugar ug baybayon/pulo nga lugar sama sa namuyo sa isla; mahal ang transport ug staging.”</p>
<p>1. Effective Communication and Early Warning Systems</p>	<p>advisory systems; color-coded alerts; communication tools; coordination channels</p>	<p>Informant 6 highlighted that, “Yes through Rekorida/ Social Media/ and signages.”</p> <p>Informant 8 emphasized that, “Aduna, naghimo ug color-coding alert system... yellow... orange... red... Gamiton ang redundant nga komunikasyon (sirena, megaphone, radyo, SMS/Messenger)”</p>
<p>8. Organized Emergency Response and Evacuation Management</p>	<p>evacuation protocols; CCCM practices; role clarity; coordination success</p>	<p>Informant 6 described that, “Barangay officials play a vital role during evacuations... organize the placement of each family...”</p> <p>Informant 7 highlighted that, “Community volunteers man the registration desk... following CCCM practices.”</p>
<p>9. Holistic Recovery and Post-Disaster Support</p>	<p>PDANA processes; psychosocial support; infrastructure rebuilding; partnerships</p>	<p>Informant 6 noted that, “Through PDANA- Post Damage Assessment and Needs Analysis”</p> <p>Informant 8 pointed out that, “Clean-up & debris clearing brigades (community + teachers)”</p>
<p>10. Learning and Policy Improvement</p>	<p>lessons learned; policy adjustments; improved preparedness systems</p>	<p>Informant 2 explained that, “Important of plan flexibility, clear communication and community cooperation”</p> <p>Informant 5 noted that, “Mas paspas ang tabang kon dali ang RDANA</p>

The thematic analysis of qualitative data reveals that community engagement plays a vital role in the implementation of School-Based Disaster Risk Reduction and Management (DRRM) in Bohol Division–CD II. Findings show that active awareness campaigns and information dissemination, such as drills and early warning systems, are widely practiced and help strengthen preparedness among students, parents, and the wider community. Alongside this, strong collaboration among multiple stakeholders—including schools, barangay officials, and emergency agencies—enhances coordination, resource sharing, and overall effectiveness of DRRM initiatives.

The final point of interest from the study was the significance of building human capital, or capacity, and gaining participation from the local population at both levels—individual/collective—within a disaster context. Capacity can be developed through training programs that provide participants with necessary skills (i.e., first aid, evacuation procedures). These programs will establish confidence in an individual when providing assistance during times of crisis. Participation through volunteerism from all community members, especially youth groups, will offer another significant resource/capacity to sustain Disaster Risk Reduction (DRR) activities and provide additional manpower during and after a disaster event. Integrating community level risk assessments and local knowledge during the planning process enhances the overall effectiveness of community-based disaster response so strategies are both applicable and appropriate to true local conditions.

Although there are many positive aspects to the study that focus on the potential for developing disaster preparedness capabilities through the process of disaster preparedness, the research also identifies resource constraints and operational difficulties as barriers to effective implementation. Factors such as limited funding, logistical concerns, and bureaucracy can limit the ability of stakeholders to effectively implement their emergency management initiatives; however, stakeholders have stated that the communication systems and early warning systems enacted through the use of multiple platforms are functional and reliable. The school systems also have implemented organized emergency response and evacuation plans to define roles and responsibilities for a unified and coordinated response to disaster incidents.

The research also suggests that holistic recovery efforts should be emphasized as part of the overall recovery process. In addition, there are many aspects of recovery beyond simply rebuilding physical structures, such as providing appropriate psychosocial support for individuals affected by the event and helping them heal through rehabilitation efforts. Furthermore, lessons learned from previous disasters have been used to refine policies on disaster recovery and improve how we prepare for future events. Thus, these themes demonstrate that DRRM continues to evolve toward a more comprehensive, holistic approach to developing and improving disaster resilience and safety through partnerships between schools and communities for the benefit of both.

Thematic Analysis of School Administrators’/DRRM Coordinators’ Practices in Implementing School-Based Disaster Risk Reduction and Management (DRRM)

Table 2 n=7

Theme	Codes	Participant Quotes
1. Structural and Non-Structural Risk Reduction Measures	infrastructure strengthening; environmental mitigation; safety installations; preventive systems	Informant 9 emphasized that “In our school, we’ve implemented both structural and non-structural measures. For example, we made sure that our buildings follow earthquake-resistant standards. At the same time, we regularly conduct earthquake drills so that learners and staff are prepared.” Informant 12 acknowledged that “We also constructed a perimeter fence and worked on environmental solutions like planting mangroves, since these can help reduce the impact of storm surges.”

<p>2. Systematic Hazard Identification and Risk Assessment</p>	<p>hazard mapping; inspections; coordination with LGUs; data validation</p>	<p>Informant 10 highlighted that “In our school, we do hazard mapping. Teachers and DRRM members go around to identify areas that are prone to flooding or have weak structures.”</p> <p>Informant 11 emphasized that “We also gather data and coordinate with local authorities like the DRRMO. That helps us validate the risks in our area.”</p>
<p>3. Continuous Infrastructure Improvement for Safety</p>	<p>evacuation routes; safety upgrades; fire protection; drainage systems</p>	<p>Informant 11 stated that “We worked on clearing and repairing evacuation routes, and we made sure these are properly marked so that evacuation will be faster and more organized.”</p> <p>Informant 13 stressed out that “We improved several aspects like building strength, fire safety systems, electrical safety, and drainage.”</p>
<p>4. Regular Preparedness Activities and Stakeholder Involvement</p>	<p>drills; seminars; training; community participation; early warning orientation</p>	<p>Informant 9 highlighted that “In our school, we regularly conduct disaster drills such as earthquake, fire, and flood drills to make sure everyone knows what to do during emergencies.”</p> <p>Informant 14 stated that “We collaborate with the LGU, especially the fire marshals, who help us conduct fire drills and training, and we also involve parents and the community during activities like Brigada Eskwela where hazards are identified.”</p>
<p>5. Capacity Building Through Orientation and Training</p>	<p>DRRM orientation; skill-based training; integration in curriculum; cascading of knowledge</p>	<p>Informant 11 stated that “What we do is we echo or roll out the trainings we attended to both teachers and learners, so they are also informed.</p> <p>Informant 12 stated that “We also conduct seminars and workshops, including hands-on training like first aid and proper use of fire extinguishers, often facilitated by LGU experts and external partners like the MDRRMO.”</p>
<p>6. Persistent Challenges in Preparedness Implementation</p>	<p>limited budget; infrastructure gaps; communication issues; limited resources; engagement issues</p>	<p>Informant 9 highlighted that “One of the main challenges we face is limited resources, especially in terms of funding and materials.”</p> <p>Informant 14 stated that “Limited evacuation space is a challenge.”</p>
<p>7. Structured and Protocol-Based Emergency Response</p>	<p>DRRM activation; evacuation procedures; communication systems; safety prioritization</p>	<p>Informant 9 emphasized that “During a disaster, we immediately activate our School DRRM Team and follow our emergency management plan.”</p> <p>Informant 12 highlighted that “We conduct headcounts after evacuation and provide first aid when necessary.”</p>

<p>8. Strong Coordination with Local Authorities</p>	<p>LGU coordination; advisory reliance; communication systems; joint planning</p>	<p>Informant 10 point out that “Our DRRM Team regularly communicates with the Barangay and Municipal DRRMO for updates and advisories.”</p> <p>Informant 15 stated that “We also participate in barangay-level disaster planning so that our school plans are aligned with the community.”</p>
<p>9. Adaptive Disaster Response Experiences</p>	<p>evacuation centers; disaster experiences; recovery actions; coordination during crises</p>	<p>Informant 10 highlighted that “During Typhoon Odette, our school was used as an evacuation center, and it was also utilized as a quarantine area during the pandemic.”</p> <p>Informant 15 highlighted that “After the disaster, we immediately conducted clearing operations with the help of teachers, parents, and students, prioritized repairing classrooms, and coordinated with external agencies for additional support.”</p>
<p>10. Ensuring Continuity of Learning and Holistic Recovery</p>	<p>modular learning; psychosocial support; flexible strategies; stakeholder support</p>	<p>Informant 9 emphasized that “We ensure continuity of learning by using modular learning or take-home activities.”</p> <p>Informant 13 stated that “We also provide psychosocial support such as counseling and psychological first aid to help learners and staff recover from trauma while continuously monitoring their progress.”</p>

The thematic analysis highlights that schools implement Disaster Risk Reduction and Management (DRRM) through structured and comprehensive strategies across mitigation, preparedness, response, and recovery. In terms of mitigation, schools adopt both structural and non-structural risk reduction measures, such as improving building safety, managing the environment, and protecting school facilities. These are supported by systematic hazard identification and risk assessment, where schools regularly conduct inspections, mapping, and collaborate with local communities to better understand and address risks.

Most of the time, schools practice preparedness by holding regular preparedness drills, training, and engaging with different stakeholders, such as local government units, parents, and the community. The ongoing orientations and addition of DRRM (Disaster Risk Reduction Management) concepts to the classroom support capacity building in schools.

While schools are attempting to be prepared, participants in the research study continue to face challenges; they report that funding is scarce, there is inadequate infrastructure, and there are communication difficulties that hinder the full implementation of Preparedness Programs.

Schools have established emergency response systems, which are structured and protocol-driven, enabling schools to provide organized evacuations, first aid or coordinating of actions to respond to disasters. Schools are able to work well with local authorities to provide coordinated and effective responses and facilitate effective communication.

Schools have demonstrated their ability to modify their plans, enhance coordination, and utilize their available resources during disasters. Schools can also serve as evacuation centers when the need arises.

During the recovery stage, schools prioritize both continuity of education as well as providing full support to children (i.e., physical, social and emotional). Schools are utilizing flexible teaching (in addition to the traditional methods) through modular curriculums as well as psychosocial interventions. The research results indicate that Disaster Risk Reduction and Management (DRRM) in a school-based approach is active,

collaborative, and experience based. The study identified many good practices but also notes that to be able to enhance disaster resilience and create safer learning sites; continued support and resources are necessary.

Level of Community Engagement

Table 3 Level of Community Engagement

N=300

Step	Items	WM	SD	Description
Step 1: ASSESS		3.27		FI
1	Community hazard maps are shared with the school	3.29	0.65	FI
2	Barangay DRRM officials coordinate with the school	3.28	0.64	FI
3	Feedback from community members is considered in DRRM planning	3.31	0.61	FI
4	Participate in community hazard mapping and share results with schools	3.24	0.66	I
5	Assist in identifying vulnerable groups (e.g., elderly, PWDs, children) within the school vicinity	3.24	0.63	I
6	Provide local risk information and historical data on hazards affecting the barangay	3.24	0.64	I
7	Coordinate with schools during Pre-Disaster Risk Assessment (PDRA) activities	3.30	0.60	FI
Step 2: PLAN		3.26		FI
8	Parents participate in DRRM planning and drills	3.14	0.67	I
9	Emergency contact and reunification plans involve families	3.23	0.68	I
10	Partnerships with NGOs or civic groups support DRRM	3.15	0.70	I
11	Local agencies provide technical support and training	3.22	0.66	I
12	Collaborate with schools in developing localized DRRM plans and evacuation protocols	3.30	0.60	FI
13	Support the integration of DRRM into school and barangay development plans	3.32	0.58	FI
14	Participate in joint planning workshops and simulation exercises	3.32	0.58	FI
15	Help identify safe evacuation areas and temporary learning spaces within the barangay	3.36	0.57	FI
Step 3: IMPLEMENT		3.22		I
16	Community volunteers assist in DRRM activities	3.29	0.67	FI
17	Awareness campaigns are conducted jointly with the community	3.22	0.65	I
18	Community members are trained in first aid and emergency services	3.12	0.69	I
19	Community participates in evacuation and shelter management	3.18	0.61	I
20	Community helps in infrastructure repair and rebuilding	3.15	0.69	I
21	Community supports psychosocial programs after disasters	3.11	0.68	I
22	Mobilize community volunteers to assist in school DRRM activities (e.g., drills, clean-ups)	3.24	0.63	I

23	Provide technical support and training (e.g., first aid, fire safety, early warning systems)	3.22	0.63	I
24	Assist in evacuation and shelter management, especially when schools are used as evacuation centers	3.31	0.61	FI
25	Support psychosocial interventions for affected learners and staff	3.22	0.64	I
26	Ensure communication and coordination with school DRRM coordinators during emergencies	3.34	0.56	FI
Step 4: MONITOR, EVALUATE & REPORT		3.27		FI
27	Community members help in post-disaster recovery	3.24	0.65	I
28	Community contributes to post-disaster needs assessment	3.23	0.62	I
29	Community engagement influences policy improvement	3.23	0.60	I
30	Participate in post-disaster assessments and feedback sessions	3.20	0.63	I
31	Help document lessons learned and recommend improvements to school DRRM plans	3.30	0.61	FI
32	Monitor the recovery and rehabilitation of school infrastructure and services	3.32	0.59	FI
33	Advocate for policy improvements based on community experiences and needs	3.28	0.59	FI
34	Ensure communication and coordination with school DRRM coordinators during emergencies	3.36	0.54	FI
OVERALL		3.26		FI

According to Table 3, community engagement overall has been rated at a high level for the DRRM (Disaster Risk Reduction and Management) regarding school-based Disaster Risk Reduction and Management. The combined average score of (3.26), indicates to the reader that through partnerships between schools, (teachers & staff members) and the communities (local government, parents, and Non-profit Organizations) are fully engaged with Disaster Risk Reduction & Management and work together well to complete activities pertaining to the planning and assessing, monitoring, evaluating and reporting of DRRM activities.

As an example, Community members are engaged by participating in the assessment of hazards and providing local risk assessments and information about how hazards will impact their community and are included in the feedback/evaluation process regarding the decision-making process.

Additionally, stakeholders are also engaged throughout the Planning Phase, where they participate in the development of the school-based DRRM plan; providing input into where evacuation locations will be or helping to support educational initiatives between Schools and Communities. Through their involvement, the feedback shared with community members enhances involvement in the formation of strategies for developing DRRM strategies by sharing experiences and knowledge with other community members.

When looking at the Implementation Phase of DRRM, stakeholder engagement is rated at a lower level, with the average score of 3.22, which provides evidence that stakeholders are generally engaged in the types of activities that are implemented; however, stakeholders have not consistently participated during actual DRRM operations (e.g., planning for emergency response, classroom training, providing support services, etc.).

Findings also suggest that while collaboration has been well established, there are gaps in sustained participation throughout the implementation phase. Additionally, these findings support theories like the Community of Practice and Protection Motivation Theory, which argue that ongoing involvement, building confidence, and having incentives are essential for participation. Some barriers to engagement include limited resources, inadequate training, and different degrees of awareness, which may hinder stakeholders' ability to actively

participate during an emergency. Overall, while community engagement is apparent in each of the four phases of DRRM, it is necessary to increase the level of participation in the implementation phase in order to improve DRRM practice outcomes.

Level of School’s Disaster Risk Reduction Management Practices

Table 4 Level of School’s Disaster Risk Reduction Management Practices

n=300

Step	Items	WM	SD	Description
Step 1: ASSESS		3.33		FI
1	Student-led School Watching and Hazard Mapping (DepEd Order 23 s. 2015)	3.36	0.65	FI
2	Use of Community Hazard Maps	3.24	0.62	I
3	Annual Building Inspection including Fire Safety	3.26	0.70	FI
4	Preparation of Basic Education Profile	3.33	0.60	FI
5	Conduct of School Risk Assessment	3.40	0.55	FI
6	School DRRM Coordinator communicates results of risk assessment to the SDO	3.38	0.64	FI
Step 2: PLAN		3.32		FI
7	Integration of DRRM in the School Improvement Plan	3.56	0.52	FI
8	Establishment of School DRRM Team	3.57	0.51	FI
9	Use of Brigada Eskwela School Safety and Preparedness Checklist (DM 41, s. 2015)	3.54	0.52	FI
10	Installation of Early Warning Systems	3.15	0.79	I
11	Uploading of DRRM Documents and Instructional Materials to Online Platforms	3.23	0.78	I
12	Updating and Posting of Emergency Contact Numbers	3.44	0.56	FI
13	Establishment of School Reunification Plan	3.14	0.70	I
14	Education Continuity Plan including Temporary Learning Spaces	3.24	0.66	I
15	Inclusive Evacuation Protocols for Elderly, Young Children, and Persons with Disabilities	3.17	0.67	I
16	Conduct of Multi-hazard Drills and Evacuation Procedures	3.29	0.65	FI
17	Promotion of Family Preparedness Plan	3.13	0.72	I
Step 3: IMPLEMENT		3.42		FI
18	Immediate Monitoring of Hazard Effects	3.40	0.61	FI
19	Ensures safekeeping of vital records and learning materials	3.49	0.51	FI
20	Tracking School Personnel During disasters/Emergencies	3.50	0.53	FI
21	Implementation of Student-Family Reunification Protocol	3.24	0.66	I
22	Conduct of School Clean-Up Activities	3.56	0.51	FI
23	Setting Up of Temporary Learning Spaces and Use of Schools as Evacuation Centers	3.38	0.65	FI
24	School DRRM Coordinator reports hazards affecting school operations (e.g., flood, fire)	3.52	0.54	FI

25	Resumption of Classes and Distribution of Learning Materials and tracking learners	3.51	0.52	FI
26	Provision of Psychosocial Support to Students and Staff	3.28	0.62	FI
27	Monitors recovery and rehabilitation interventions	3.30	0.59	FI
Step 4: MONITOR, EVALUATE & REPORT		3.51		FI
28	Conducts rapid assessment of damages and submits RADAR within 72 hours	3.56	0.52	FI
29	School DRRM coordinator accomplishes and submits RADAR via SMS	3.51	0.56	FI
30	Monitors effects of hazards, including use of school as evacuation center	3.56	0.54	FI
31	Tracks and reports progress of recovery and rehabilitation	3.52	0.57	FI
32	Updates SDO on demobilization of evacuation centers	3.49	0.57	FI
33	Prepares and submits reports on hazard effects	3.56	0.52	FI
34	Review of safety and preparedness measures and protocols	3.54	0.52	FI
35	Integration of assessment results into school planning	3.48	0.54	FI
36	Documentation of lessons learned from past disasters	3.42	0.59	FI
37	Monitoring, evaluation, and reporting of DRRM interventions	3.44	0.57	FI
OVERALL		3.40		FI

Table 4 has been compiled as a result of comprehensive review of school Disaster Risk Reduction and Management (DRRM) practices and an overall weighted average of 3.40 means that DRRM is generally practiced at a high level of implementation within regular school operations, which has been consistently carried out with respect to all four stages of disaster recovery: (1) assessment; (2) planning; (3) implementation; (4) monitoring, evaluation & reporting. The monitoring, evaluation and reporting were also rated the highest of the four stages of DRRM school operations demonstrating schools' capabilities to monitor disaster-related activities, document experiences and use of external resources to enhance future practices. The System Theory supports this finding as it indicates the critical role of feedback processes to help develop and evolve system performance (Bertalanffy, 1948).

Regarding implementation stage, the high implementation score demonstrates that schools are implementing multiple DRRM activities, including hazard monitoring as part of the overall hazard assessment methodology, as well as conducting clean up drives and providing psychosocial support to students and community members. However, although the assessment and planning stages continue to be fully implemented, they were rated relatively lower than the implementation stage. It means that although schools have created DRRM plans and completed risk assessments, they may not have focused on providing certain prevention efforts to families, such as family readiness kits and early warning systems, in a significant way. Similar results were found in the study completed by Johnson (2017), whereby many school-based DRRM efforts were inclined toward compliance with response related issues and less focused on pro- active preparedness related initiatives.

DRRMs have been successfully established and adopted by many people as per Roger's theory of innovation (1962) such that there is still a need to develop further looking-forward strategies. There is opportunity to improve existing plans; enhance early warning systems; and develop family-level preparedness to support schools in taking a more proactive, systematic approach to DRRM.

Level of School Safety and Preparedness

Table 5 Level of School Safety and Preparedness

n=300

Area	Items	WM	SD	Description
3.1 Structural Safety		3.09		A
1	School buildings are structurally sound and hazard-resistant.	3.09	0.62	A
2	Classrooms have been assessed for earthquake and typhoon safety.	3.35	0.69	SA
3	There are no visible cracks or damage in school infrastructure.	2.64	0.87	A
4	School complies with national building codes and safety standards.	3.20	0.66	A
5	Electrical wiring and installations are safe and regularly inspected.	3.16	0.63	A
6	Roofs and ceilings are reinforced and leak-free.	3.03	0.68	A
7	Windows and doors are secure and shatter-resistant.	2.99	0.65	A
8	Drainage systems are functional and prevent flooding.	3.06	0.73	A
9	Fire exits are unobstructed and accessible.	3.27	0.64	SA
10	Safety audits are conducted regularly by qualified personnel.	3.09	0.73	A
3.2 Emergency Protocols		3.42		SA
11	The school has a written and updated DRRM plan.	3.45	0.52	SA
12	Emergency drills (e.g., earthquake, fire) are conducted regularly.	3.66	0.49	SA
13	Evacuation routes and emergency exits are clearly marked.	3.41	0.56	SA
14	Teachers and students are trained in basic emergency procedures.	3.30	0.63	SA
15	Emergency contact lists are updated and accessible.	3.43	0.55	SA
16	There are designated assembly areas for evacuation.	3.52	0.54	SA
17	Roles and responsibilities during emergencies are clearly assigned.	3.40	0.55	SA
18	Emergency signage is visible and understandable.	3.24	0.58	A
19	Communication protocols during emergencies are established.	3.37	0.54	SA
20	Incident reporting procedures are in place and followed.	3.41	0.52	SA
3.3 Availability of resources		3.06		A
21	First aid kits and emergency supplies are available in classrooms.	3.23	0.69	A
22	The school has access to emergency food and water.	2.94	0.74	A
23	DRRM educational materials are available and used in teaching.	3.20	0.65	A
24	There is a budget allocated for DRRM activities.	3.14	0.65	A

25	Fire extinguishers are available and regularly maintained.	3.36	0.63	SA
26	Emergency lighting systems are installed.	2.83	0.81	A
27	Communication devices (e.g., radios, phones) are available.	3.06	0.70	A
28	Protective gear (e.g., helmets, vests) is accessible.	2.58	0.87	A
29	Resource inventory is maintained and updated.	3.12	0.68	A
30	Supplies are stored in safe, accessible locations.	3.18	0.66	A
3.4 Coordination with Local Disaster Agencies		3.30		SA
31	The school collaborates with barangay or municipal DRRM offices.	3.51	0.56	SA
32	Local agencies provide training or technical support to the school.	3.17	0.71	A
33	The school is included in community-wide disaster drills.	3.30	0.66	SA
34	Communication with local DRRM agencies is timely and effective.	3.38	0.56	SA
35	Joint planning sessions are held with local DRRM units.	3.18	0.69	A
36	School DRRM plans align with barangay or municipal plans.	3.27	0.61	SA
37	Local responders are familiar with school layout and protocols.	3.24	0.61	A
38	The school receives updates on local hazard alerts.	3.40	0.58	SA
39	Partnerships exist with health and emergency services.	3.30	0.55	SA
40	Feedback from local agencies is used to improve school plans.	3.29	0.59	SA
3.5 Risk Reduction Education and Curriculum Integration		3.36		SA
41	DRRM is integrated into classroom instruction.	3.53	0.53	SA
42	Students are taught about local hazards and safety measures.	3.56	0.52	SA
43	School-wide activities promote DRRM awareness.	3.48	0.54	SA
44	Teachers use DRRM modules and lesson plans.	3.30	0.54	SA
45	DRRM topics are included in science, social studies, and health subjects.	3.44	0.53	SA
46	Students participate in hazard mapping and risk assessments.	3.40	0.54	SA
47	Educational posters and materials are displayed around the school.	3.23	0.56	A
48	DRRM is part of student projects and presentations.	3.23	0.57	A
49	Competitions or events promote DRRM awareness.	3.09	0.65	A
50	DRRM education is age-appropriate and culturally relevant.	3.30	0.51	SA
3.6 Inclusivity and Accessibility		3.23		A
51	DRRM plans are inclusive of children with disabilities.	3.36	0.57	SA

52	Evacuation routes and procedures are accessible to all students.	3.44	0.52	SA
53	DRRM activities are gender-sensitive and inclusive.	3.40	0.52	SA
54	Sign language or visual aids are used for communication.	3.07	0.73	A
55	Special needs students have assigned support during emergencies.	3.15	0.67	A
56	Inclusive drills are conducted with all student groups.	3.30	0.60	SA
57	Feedback from marginalized groups is considered in planning.	3.19	0.62	A
58	Facilities are equipped with ramps and accessible toilets.	3.09	0.70	A
59	Materials are translated into local languages if needed.	3.16	0.63	A
60	Staff are trained in inclusive emergency response.	3.15	0.70	A
3.7 School Leadership and Governance		3.52		SA
61	There is a designated DRRM coordinator or committee in the school.	3.64	0.52	SA
62	School leadership actively supports DRRM implementation.	3.63	0.49	SA
63	Teachers and staff are involved in DRRM decision-making.	3.60	0.50	SA
64	DRRM is included in school improvement plans.	3.59	0.50	SA
65	Regular meetings are held to review DRRM progress.	3.32	0.61	SA
66	Leadership ensures compliance with DRRM policies.	3.46	0.52	SA
67	DRRM roles are clearly defined among staff.	3.47	0.54	SA
68	School heads participate in community DRRM initiatives.	3.48	0.59	SA
69	DRRM is discussed during parent-teacher meetings.	3.55	0.50	SA
70	Leadership advocates DRRM funding and support.	3.44	0.55	SA
3.8 Monitoring and Evaluation		3.40		SA
71	The school regularly assesses its DRRM readiness.	3.44	0.53	SA
72	Tools or checklists are used to monitor safety and preparedness.	3.33	0.52	SA
73	Lessons learned from past disasters are used to improve plans.	3.50	0.53	SA
74	Feedback from drills is documented and acted upon.	3.46	0.52	SA
75	Evaluation reports are shared with stakeholders.	3.37	0.56	SA
76	Risk assessments are updated periodically.	3.31	0.57	SA
77	Indicators are used to measure DRRM effectiveness.	3.37	0.54	SA
78	Monitoring includes infrastructure, training, and resource availability.	3.36	0.54	SA
79	External evaluations are welcomed and reviewed.	3.41	0.54	SA

80	Continuous improvement is part of the DRRM strategy.	3.47	0.53	SA
3.9 Psychological Preparedness and Mental Health Support		3.22		A
81	Students and staff are trained to manage stress during disasters.	3.22	0.63	A
82	Psychosocial support is available after emergencies.	3.13	0.66	A
83	Activities promote emotional resilience among students.	3.26	0.61	SA
84	Counseling services are accessible in the school.	3.11	0.65	A
85	Teachers are trained in psychological first aid.	3.19	0.63	A
86	Peer support groups are encouraged.	3.30	0.52	SA
87	Mental health awareness is part of DRRM education.	3.37	0.55	SA
88	Safe spaces are provided for emotional recovery.	3.24	0.61	A
89	Partnerships exist with mental health professionals.	3.15	0.66	A
90	Emotional well-being is monitored after drills and disasters.	3.23	0.62	A
3.10 Community and Parental Involvement		3.25		SA
91	Parents are involved in school DRRM activities.	3.30	0.63	SA
92	School engages community leaders in planning and drills.	3.27	0.59	SA
93	Feedback from parents and community members is encouraged.	3.38	0.52	SA
94	Community volunteers assist in DRRM implementation.	3.22	0.59	A
95	DRRM updates are shared during school assemblies and meetings.	3.37	0.58	SA
96	Local traditions and knowledge are integrated into DRRM.	3.27	0.56	SA
97	Parents receive training or orientation on DRRM.	3.06	0.68	A
98	Community members help in hazard mapping and assessments.	3.17	0.61	A
99	Joint school-community DRRM committees exist.	3.23	0.62	A
100	Collaboration is sustained beyond disaster events.	3.24	0.57	A
OVERALL		3.29		SA

Table 5 shows that the schools have good preparedness and safety, overall scored a weighted mean score of 3.29, which represents Strongly Agree. This means that DRRM mechanisms are established in all three phases of DRRM in structural, procedural, and organizational ways. Of all measures, school leadership/governance was given the highest score, which indicates that school leaders are critical to ensuring proper implementation of DRRM programs through provision of adequate clear responsibilities to workers, strong administrator support and providing necessary opportunities for worker involvement in order to achieve DRRM objectives. High scores were given in both the emergency protocols and monitoring/evaluation components which indicates that many schools are regularly practicing drills, following current protocols and monitoring/evaluating their practices. These scores are consistent with the findings of the Smith et al. (2020) and Lee et al. (2019) studies

which suggest that having clear protocols in place and continually evaluating them improves a school's level of emergency preparedness.

There were some areas with minimal ratings such as availability of resources, psychological readiness and involvement from the community and parents which were each viewed as Agreed. This shows that although there is strength in the structure and procedures of schools there are still gaps within resource provision, mental health supports and continued engagement of all stakeholders. Areas of specific concern were the lack of adequate protective equipment and light sources for use during emergencies, which will further detail some of the issues that may contribute to the actual response during a disaster. Garcia and Cruz (2018) have demonstrated that a lack of resources and the absence of strong support systems continue to be significant obstacles for the implementation of DRRM.

The results of the research indicate that although schools appear to be well-prepared for the resilience challenges they will face, they need to adopt a more holistic approach in order to develop resilience. As indicated by Ecological Resilience Theory, the capacity to sustain the well-being and promote the adaptive capacity of individuals during a disaster and following a disaster is a critical aspect of disaster preparedness, which must include both physical and non-physical resources.

The Relationship of Level of School’s Disaster Risk Reduction Management Practices, Level of Community Engagement and Level of School Safety and Preparedness

Table 6 n=300

Variables	<i>r</i>	<i>α</i>	<i>p</i> -value	Interpretation	Decision
Level of Community Engagement and Level of School’s Disaster Risk Reduction Management Practices	0.760	.05	<.001	Significant	Reject H ₀
Level of Community Engagement and School’s Safety and Preparedness	0.757	.05	<.001	Significant	Reject H ₀
Level of School’s Disaster Risk Reduction Management Practices and School Safety and Preparedness	0.766	.05	<.001	Significant	Reject H ₀

Table 6 shows that there are strong and statistically significant relationships among school DRRM practices, community engagement, and school safety and preparedness, with all p-values less than 0.001. The correlation between DRRM practices and community engagement ($r = 0.760$) indicates a strong positive relationship, suggesting that improvements in DRRM implementation are associated with increased stakeholder involvement. Similarly, community engagement and school safety and preparedness are strongly related ($r = 0.757$), showing that active participation from stakeholders contributes to better school readiness.

The DRRM practices in schools showed the strongest correlation to school safety and preparedness ($r = 0.766$), indicating that effective and well-implemented DRRM systems enhance school safety and preparedness directly. This supports the findings of Hernandez (2019), who noted that strong DRRM implementation improves disaster preparedness, as well as Martinez & Lopez (2021), who identified how important it is for a community to be involved in creating resilient institutions.

The overall results of the study indicate that there is an interrelationship between Disaster Risk Reduction Management (DRRM), community participation and involvement in disaster risk reduction, and school safety and preparation of disaster risk management. The results demonstrate the principles of Systems Theory (Bertalanffy, 1948) wherein the components of a system interact to produce improved outcomes for the system as a whole. Strengthening the implementation of DRRM along with promoting greater involvement of the community in DRRM will greatly improve school safety and promote more successful and sustainable practices in the management of disaster risk.

Integration and Triangulation of Quantitative and Qualitative Findings

The qualitative and quantitative findings reveal an overall comprehension of the level of community engagement, DRRM practices and safety/preparedness for schools in Bohol by providing information on current levels of engagement of community members regarding disaster response (i.e., DRR) through qualitative and quantitative methods. Both qualitative and quantitative research indicate that community engagement has been active and collaborative among stakeholders and that they actively participate in awareness campaigns; disaster drills; plan and coordinate with local governments; and develop protocols for disaster response through use of a planning guide and other tools. The quantitative data supports the conclusion that there is full participation in community engagement as well as community and school participants share a commitment to the concept of shared responsibility. Qualitative findings from DRRM practice will continue to develop over time as stakeholders will establish a long-term practice regarding DRRM principles, yet the current practices have already established a substantial and comprehensive approach for providing safe environments for educational opportunities through implementation of structural and non-structural DRRM strategies, conducting regular practice drills, and using DRRM principles for continuity of learning in post-disaster situations. Further, high quantitative ratings obtained for the DRRM monitoring and evaluation areas of measurement support the theory that DRRM has become a part of the operational procedures in educational institutions.

Both qualitative and quantitative data indicate that most school systems are adequately prepared for emergencies based on how they have developed criteria for performance information, demonstrated effective Leadership, established clear operational procedures when responding to emergency/critical incidents, and engaged regularly with local Partners and their associated agencies during the development of emergency response or preparedness Plans or programs (or special events). There is, however, consistent evidence that insufficient Human Resources, Mental Health supports and long-term Community engagement are present in most school environments and have impacted their ability to provide Safety and Preparedness. There also is a strong correlation between school Emergency Management processes and DRRM Practices and Community Engagement, as well as School Safety based on the relationship between the three constructs vis a vis System Theory (Bertalanffy, 1948), referring to the interdependence of the elements of a System. Finally, the triangulated data from both statistical data and the experiences of stakeholders demonstrate that there are significant similarities in the two data sources while also clearly showing that for improvement (enhanced resource availability; improved psychological assisting; increased stakeholder involvement) to occur for fostering and advancing Disaster Resiliency (Hernandez, 2019; Martinez & Lopez, 2021).

CONCLUSION

Community engagement contributes to the effective implementation of DRRM practices, as active stakeholder participation enhances planning, coordination, and execution of disaster-related activities. In turn, well-implemented DRRM practices is associated with and strengthen school safety and preparedness by ensuring the presence of structured systems, protocols, and responsive mechanisms during emergencies.

School heads may strengthen partnerships with stakeholders by conducting regular consultations, planning, and joint DRRM activities to sustain community engagement on disaster preparedness and disaster risk reduction. School DRRM coordinators may organize regular capacity-building activities such as disaster drills, simulation exercises, first aid training, and emergency workshops to socially prepared the students and stakeholders. All teaching & non-teaching personnel may continuously review, update, and improve their safety protocols, emergency response plans, and risk reduction strategies to address emerging hazards and changing environmental conditions. Department of Education may provide adequate resources and technical assistance to effectively implement the DRRM plans and programs in the schools. Future researchers may build on this study by conducting similar research in other school divisions or regions to help confirm the findings and gain broader perspectives. They may also investigate other important factors, such as how resources are distributed, the effectiveness of school leadership, and the psychological preparedness of stakeholders. In addition, using a longitudinal research design could provide deeper insight into how DRRM programs affect schools over time.

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APPENDIX

Appendix A

Interview Guide



Republic of the Philippines



BOHOL ISLAND STATE UNIVERSITY

C.P.G. Ave., Tagbilaran City, 6300, Bohol, Philippines School of Advanced Studies

Objective:

To explore how various stakeholders—including school personnel, barangay officials, and community members—participate in and perceive their roles in disaster risk reduction and management activities within schools.

A. Awareness Campaigns / Kampanya sa Pagpahibalo

1. What types of awareness campaigns related to disaster preparedness have been conducted in your school or _____ community?
(Unsa nga mga matang sa kampanya sa pagpahibalo kabahin sa kahikay sa katalagman ang gihimo sa inyong eskwelahan o komunidad?)
2. How are these campaigns received by parents, students, and community members?
(Unsaon pagdawat sa mga ginikanan, estudyante, ug mga miyembro sa komunidad sa maong mga kampanya?)

B. Collaborative Planning / Tinabangay nga Pagplano

3. Can you describe how your school collaborates with community stakeholders in planning for disaster preparedness?
(Mahimo ba nimo isaysay kung giunsa sa inyong eskwelahan ang pakigtinabangay sa mga stakeholder sa komunidad sa pagplano alang sa kahikay sa katalagman?)
4. Who are usually involved in these planning sessions?
(Kinsa kasagaran ang apil sa maong mga sesyon sa pagplano?)

C. Training and Capacity Building / Pagsanay ug Pagpalig-on sa Kakayahan

5. What training programs have been provided to school staff and community members regarding DRRM?
(Unsa nga mga programa sa pagsanay ang gihatag sa mga kawani sa eskwelahan ug mga miyembro sa komunidad kabahin sa DRRM?)
6. How effective do you think these trainings are?
(Sa imong tan-aw, epektibo ba ang maong mga pagsanay?)

D. Volunteer Programs / Programa sa mga Boluntaryo

7. Are there volunteer programs that support DRRM activities in your school?
(Aduna bay mga programa sa boluntaryo nga nagsuporta sa mga kalihokan sa DRRM sa inyong eskwelahan?)
8. What motivates community members to volunteer?(Unsa ang nakapadasig sa mga miyembro sa komunidad sa pagboluntaryo?)

E. Community-Based Risk Assessments / Pagtuki sa Risgo nga Giapil ang Komunidad

9. Has your school conducted any risk assessments with the help of the community? Can you describe specific activity?
(Nakahimo ba ang inyong eskwelahan og pagtuki sa risgo uban ang tabang sa komunidad? Pwede baka makahatag ug aktibidades?)
10. What insights or contributions did the community provide?
(Unsa nga mga kasayuran o kontribusyon ang gihatag sa komunidad?)

F. Resource Mobilization / Pagpangita ug Pagpalihok sa mga Tinubdan

11. How does your school or community mobilize resources for DRRM activities?
(Giunsa sa inyong eskwelahan o komunidad ang pagpalihok sa mga tinubdan alang sa mga kalihokan sa DRRM?)
12. What challenges do you face in securing support?
(Unsa nga mga hagit ang inyong nasinati sa pagkuha og suporta?)

G. Communication and Information Sharing / Komunikasyon ug Pagpaambit sa Impormasyon

13. How is disaster-related information shared between the school and the community?
(Giunsa pagpaambit ang impormasyon kabahin sa katalagman tali sa eskwelahan ug komunidad?)
14. Are there systems in place for early warning or emergency alerts?
(Aduna bay sistema alang sa sayong pahimangno o emerhensiyang pahibalo?)

H. Emergency Response Coordination / Koordinasyon sa Tubag sa Emerhensiya

15. How does your school coordinate with barangay or municipal DRRM offices during emergencies?
(Giunsa sa inyong eskwelahan ang pakigkoordinar sa barangay o municipal DRRM offices panahon sa emerhensiya?)
16. Can you share an example of successful coordination?
(Mahimo ba nimo ipaambit ang usa ka pananglitan sa malampusong koordinasyon?)

I. Evacuation and Shelter Management / Pagdumala sa Evakwasyon ug Pasilungan

17. What role does the community play in managing evacuation and shelter during disasters?
(*Unsa ang papel sa komunidad sa pagdumala sa evakwasyon ug pasilungan panahon sa katalagman?*)
18. Are there designated areas and protocols?
(*Aduna bay gitakda nga mga lugar ug mga pamaagi?*)

J. First Aid and Emergency Services / Unang Tabang ug Serbisyo sa Emerhensiya

19. Are community members trained or involved in providing first aid during school emergencies?
(*Ang mga miyembro ba sa komunidad gi-train o giapil sa paghatag og unang tabang panahon sa emerhensiya sa eskwelahan?*)
20. What support is available from local health or emergency services?
(*Unsa nga suporta ang magamit gikan sa lokal nga health o emergency services?*)

K. Post-Disaster Needs Assessment / Pagtuki sa Panginahanglan Human sa Katalagman

21. How are post-disaster needs assessed in your school and community?
(*Giunsa pagtuki ang mga panginahanglan human sa katalagman sa inyong eskwelahan ug komunidad?*)
22. Who leads or participates in this process?
(*Kinsa ang nag-una o apil sa maong proseso?*)

L. Psychosocial Support Programs / Programa sa Sikolohikal ug Sosyal nga Suporta

23. Are there programs that provide emotional or psychological support after disasters?
(*Aduna bay mga programa nga naghatag og emosyonal o sikolohikal nga suporta human sa katalagman?*)
24. How are these programs implemented and who benefits?
(*Giunsa pagpatuman ang maong mga programa ug kinsa ang nakabenepisyo?*)

M. Infrastructure Repair and Rebuilding / Pag-ayo ug Pag-usab sa mga Estrukturura

25. What role does the community play in repairing or rebuilding school facilities after a disaster?
(*Unsa ang papel sa komunidad sa pag-ayo o pag-usab sa mga pasilidad sa eskwelahan human sa katalagman?*)
26. Are there partnerships or funding sources involved?
(*Aduna bay mga kauban nga organisasyon o tinubdan sa pondo nga nalambigit?*)

N. Lessons Learned and Policy Improvement / Mga Leksyon nga Nakutlo ug Pagpaayo sa Palisiya

27. What lessons have you learned from past disaster experiences?
(*Unsa nga mga leksyon ang inyong nakutlo gikan sa mga kasinatian sa nangagi nga katalagman?*)
28. How have these lessons influenced school or community policies?
(*Giunsa pag-impluwensya sa maong mga leksyon ang mga palisiya sa eskwelahan o komunidad?*)

APPENDIX B

INTERVIEW GUIDE

Republic of the Philippines

Bohol Island State University

Main Campus

Tagbilaran City



SCHOOL OF ADVANCED STUDIES (SAdS)

INTERVIEW GUIDE FOR School Administrator as School DRRM Coordinator

Instructions for Respondents:

Thank you for agreeing to participate in this interview. Your insights are valuable in helping us understand how schools implement Disaster Risk Reduction and Management (DRRM) practices.

Before we begin, please note the following:

- The purpose of this interview is to gather information about your school's DRRM strategies, challenges, and coordination efforts.
- All responses will be kept confidential and used solely for research purposes.
- You may choose not to answer any question you're uncomfortable with, and you are free to end the interview at any time.
- **Three (3) questions** each covering the four thematic areas: **Mitigation, Preparedness, Response, and Recovery**

At the end of the interview, you'll be invited to share any additional thoughts or experiences you believe are relevant. Your contribution will be acknowledged as part of the study's conclusion.

To gather detailed insights into the actual DRRM practices being implemented in schools, including strategies, challenges, and coordination efforts across the four thematic areas.

Mitigation

Objective: To understand the preventive measures schools have adopted to reduce disaster risks.

1. What structural or non-structural measures has your school implemented to reduce disaster risks?
2. How does your school identify and assess potential hazards in your area?
3. Can you describe any improvements made to school infrastructure to enhance safety?

Preparedness

Objective: To examine how schools prepare for potential disasters through training, planning, and awareness.

4. What preparedness activities (e.g., drills, training) are regularly conducted in your school?

5. How are students and staff oriented or trained for disaster preparedness?
6. What challenges do you face in preparing for disasters?

Response

Objective: To explore the immediate actions and coordination mechanisms schools follow during disaster events.

7. What are the standard procedures followed by your school during a disaster?
8. How does your school coordinate with local authorities during emergency situations?
9. Can you share an experience where your school had to respond to an actual disaster?

Recovery

Objective: To understand how schools manage post-disaster recovery and ensure continuity of education.

10. What steps does your school take to recover after a disaster?
11. How do you ensure the continuity of learning during and after emergencies?
12. What support systems are in place for students and staff during recovery?

Appendix C

Survey Questionnaire



Republic of the Philippines

Bohol Island State University

Main Campus

Tagbilaran City



SCHOOL OF ADVANCED STUDIES (SAdS)

SURVEY QUESTIONNAIRE FOR SCHOOL HEAD AS SDRRM COORDINATOR

Part I. Level of School Safety and Preparedness

This survey aims to assess the level of school safety and preparedness in public schools in Bohol, particularly in the context of Disaster Risk Reduction and Management (DRRM).

The results will help identify strengths, gaps, and areas for improvement in school-based DRRM practices, infrastructure safety, emergency protocols, resource availability, and community involvement. The findings will serve as a basis for developing evidence-based recommendations and action plans to enhance school resilience and disaster readiness.

Instructions to the Respondents

This questionnaire is composed of several items grouped into key areas of school safety and preparedness.

Please read each statement carefully and indicate the extent to which you agree or disagree using the scale below:

- 4 – Strongly Agree
 - 3 – Agree
 - 2 – Disagree
 - 1 – Strongly Disagree
2. There are also open-ended questions at the end of the survey. Kindly provide honest and thoughtful responses based on your experiences and observations.
 3. Your responses will be kept strictly confidential and will be used solely for academic research purposes.
 4. If you have any questions or need clarification, please do not hesitate to ask the researcher.

Item	Put check.			
	44	33	22	11
3.1 Structural Safety				
1. School buildings are structurally sound and hazard-resistant.				
2. Classrooms have been assessed for earthquake and typhoon safety.				
3. There are no visible cracks or damage in school infrastructure.				
4. School complies with national building codes and safety standards.				
5. Electrical wiring and installations are safe and regularly inspected.				
6. Roofs and ceilings are reinforced and leak-free.				
7. Windows and doors are secure and shatter-resistant.				
8. Drainage systems are functional and prevent flooding.				
9. Fire exits are unobstructed and accessible.				
10. Safety audits are conducted regularly by qualified personnel.				
3.2 Emergency Protocols				
1. The school has a written and updated DRRM plan.				
2. Emergency drills (e.g., earthquake, fire) are conducted regularly.				
3. Evacuation routes and emergency exits are clearly marked.				
4. Teachers and students are trained in basic emergency procedures.				
5. Emergency contact lists are updated and accessible.				
6. There are designated assembly areas for evacuation.				
7. Roles and responsibilities during emergencies are clearly assigned.				
8. Emergency signage is visible and understandable.				
9. Communication protocols during emergencies are established.				
10. Incident reporting procedures are in place and followed.				
3.3 Availability of resources				
1. First aid kits and emergency supplies are available in classrooms.				
2. The school has access to emergency food and water.				
3. DRRM educational materials are available and used in teaching.				
4. There is a budget allocated for DRRM activities.				
5. Fire extinguishers are available and regularly maintained.				
6. Emergency lighting systems are installed.				
7. Communication devices (e.g., radios, phones) are available.				
8. Protective gear (e.g., helmets, vests) is accessible.				
9. Resource inventory is maintained and updated.				
10. Supplies are stored in safe, accessible locations.				
3.4 Coordination with Local Disaster Agencies				
1. The school collaborates with barangay or municipal DRRM offices.				
2. Local agencies provide training or technical support to the school.				
3. The school is included in community-wide disaster drills.				
4. Communication with local DRRM agencies is timely and effective.				
5. Joint planning sessions are held with local DRRM units.				
6. School DRRM plans align with barangay or municipal plans.				
7. Local responders are familiar with school layout and protocols.				
8. The school receives updates on local hazard alerts.				
9. Partnerships exist with health and emergency services.				
10. Feedback from local agencies is used to improve school plans.				
3.5 Risk Reduction Education and Curriculum Integration				
1. DRRM is integrated into classroom instruction.				
2. Students are taught about local hazards and safety measures.				
3. School-wide activities promote DRRM awareness.				
4. Teachers use DRRM modules and lesson plans.				

5.	DRRM topics are included in science, social studies, and health subjects.				
6.	Students participate in hazard mapping and risk assessments.				
7.	Educational posters and materials are displayed around the school.				
8.	DRRM is part of student projects and presentations.				
9.	Competitions or events (e.g., quiz bees, poster-making) promote DRRM.				
10.	DRRM education is age-appropriate and culturally relevant.				
3.6 Inclusivity and Accessibility					
1.	DRRM plans are inclusive of children with disabilities.				
2.	Evacuation routes and procedures are accessible to all students.				
3.	DRRM activities are gender-sensitive and inclusive.				
4.	Sign language or visual aids are used for communication.				
5.	Special needs students have assigned support during emergencies.				
6.	Inclusive drills are conducted with all student groups.				
7.	Feedback from marginalized groups is considered in planning.				
8.	Facilities are equipped with ramps and accessible toilets.				
9.	Materials are translated into local languages if needed.				
10.	Staff are trained in inclusive emergency response.				
3.7 School Leadership and Governance					
1.	There is a designated DRRM coordinator or committee in the school.				
2.	School leadership actively supports DRRM implementation.				
3.	Teachers and staff are involved in DRRM decision-making.				
4.	DRRM is included in school improvement plans.				
5.	Regular meetings are held to review DRRM progress.				
6.	Leadership ensures compliance with DRRM policies.				
7.	DRRM roles are clearly defined among staff.				
8.	School heads participate in community DRRM initiatives.				
9.	DRRM is discussed during parent-teacher meetings.				
10.	Leadership advocates DRRM funding and support.				
3.8 Monitoring and Evaluation					
1.	The school regularly assesses its DRRM readiness.				
2.	Tools or checklists are used to monitor safety and preparedness.				
3.	Lessons learned from past disasters are used to improve plans.				
4.	Feedback from drills is documented and acted upon.				
5.	Evaluation reports are shared with stakeholders.				
6.	Risk assessments are updated periodically.				
7.	Indicators are used to measure DRRM effectiveness.				
8.	Monitoring includes infrastructure, training, and resource availability.				
9.	External evaluations are welcomed and reviewed.				
10.	Continuous improvement is part of the DRRM strategy.				
3.9 Psychological Preparedness and Mental Health Support					
1.	Students and staff are trained to manage stress during disasters.				
2.	Psychosocial support is available after emergencies.				
3.	Activities promote emotional resilience among students.				
4.	Counseling services are accessible in the school.				
5.	Teachers are trained in psychological first aid.				
6.	Peer support groups are encouraged.				
7.	Mental health awareness is part of DRRM education.				
8.	Safe spaces are provided for emotional recovery.				
9.	Partnerships exist with mental health professionals.				
10.	Emotional well-being is monitored after drills and disasters.				
3.10 Community and Parental Involvement					
1.	Parents are involved in school DRRM activities.				

2.	The school engages community leaders in planning and drills.				
3.	Feedback from parents and community members is encouraged.				
4.	Community volunteers assist in DRRM implementation.				
5.	DRRM updates are shared during school assemblies and meetings.				
6.	Local traditions and knowledge are integrated into DRRM.				
7.	Parents receive training or orientation on DRRM.				
8.	Community members help in hazard mapping and assessments.				
9.	Joint school-community DRRM committees exist.				
10.	Collaboration is sustained beyond disaster events.				

PART II. Survey Questionnaire on Level of School Disaster Risk Reduction Management Practices and Community Engagement for School DRRM Coordinators.

Instructions: Please rate the extent to which the following practices are implemented in your school and community. Use the scale below:

4 – Fully Implemented

3– Implemented

2 – Partially Implemented

1 – Not Implemented

Indicator	4	3	2	1
4.1 SCHOOL DRRM PRACTICES				
Step 1: ASSESS				
1. Student-led School Watching and Hazard Mapping (DepEd Order 23 s. 2015)				
2. Use of Community Hazard Maps				
3. Annual Building Inspection including Fire Safety				
4. Preparation of Basic Education Profile				
5. Conduct of School Risk Assessment				
6. School DRRM Coordinator communicates results of risk assessment to the SDO.				
Step 2: PLAN				
1. Integration of DRRM in the School Improvement Plan				
2. Establishment of School DRRM Team				
3. Use of Brigada Eskwela School Safety and Preparedness Checklist (DM 41, s. 2015)				
4. Installation of Early Warning Systems				
5. Uploading of DRRM Documents and Instructional Materials to Online Platforms				
6. Updating and Posting of Emergency Contact Numbers				
7. Establishment of School Reunification Plan				
8. Education Continuity Plan including Temporary Learning Spaces				
9. Inclusive Evacuation Protocols for Elderly, Young Children, and Persons with Disabilities				
10. Conduct of Multihazard Drills and Evacuation Procedures				
11. Promotion of Family Preparedness Plan				
Step 3: IMPLEMENT				
1. Immediate Monitoring of Hazard Effects				
2. ensures safekeeping of vital records and learning materials.				
3. Tracking School Personnel During disasters/Emergencies				

4.	Implementation of Student-Family Reunification Protocol				
5.	Conduct of School Clean-Up Activities				
6.	Setting Up of Temporary Learning Spaces and Use of Schools as Evacuation Centers				
7.	School DRRM Coordinator reports hazards affecting school operations (e.g., flood, fire).				
8.	Resumption of Classes and Distribution of Learning Materials and tracking learners				
9.	Provision of Psychosocial Support to Students and Staff				
10.	monitors recovery and rehabilitation interventions.				
Step 4: MONITOR, EVALUATE & REPORT					
1.	conducts rapid assessment of damages and submits RADAR within 72 hours.				
2.	School DRRM coordinator accomplishes and submits Radar via Sms.				
3.	monitors effects of hazards, including use of school as evacuation center.				
4.	School DRRM coordinator tracks and reports progress of recovery and rehabilitation.				
5.	School DRRM coordinator updates SDO on demobilization of evacuation centers.				
6.	prepares and submits reports on hazard effects.				
7.	review of safety and preparedness measures and protocols				
8.	integration of assessment results into school planning				
9.	documentation of lessons learned from past disasters				
10.	monitoring, evaluation, and reporting of DRRM interventions				
4.2 COMMUNITY ENGAGEMENT					
Step 1: Assess					
1.	Community hazard maps are shared with the school				
2.	Barangay DRRM officials coordinate with the school				
3.	Feedback from community members is considered in DRRM planning				
4.	Participate in community hazard mapping and share results with schools				
5.	Assist in identifying vulnerable groups (e.g., elderly, PWDs, children) within the school vicinity				
6.	Provide local risk information and historical data on hazards affecting the barangay				
7.	Coordinate with schools during Pre-Disaster Risk Assessment (PDRA) activities				
Step 2: PLAN					
8.	Parents participate in DRRM planning and drills				
9.	Emergency contact and reunification plans involve families				
10.	Partnerships with NGOs or civic groups support DRRM				
11.	Local agencies provide technical support and training				
12.	Collaborate with schools in developing localized DRRM plans and evacuation protocols				
13.	Support the integration of DRRM into school and barangay development plans				
14.	Participate in joint planning workshops and simulation exercises				
15.	Help identify safe evacuation areas and temporary learning spaces within the barangay				
Step 3: IMPLEMENT					
16.	Community volunteers assist in DRRM activities				
17.	Awareness campaigns are conducted jointly with the community				
18.	Community members are trained in first aid and emergency services				
19.	Community participates in evacuation and shelter management				
20.	Community helps in infrastructure repair and rebuilding				
21.	Community supports psychosocial programs after disasters				

22. Mobilize community volunteers to assist in school DRRM activities (e.g., drills, clean-ups)				
23. Provide technical support and training (e.g., first aid, fire safety, early warning systems)				
24. Assist in evacuation and shelter management, especially when schools are used as evacuation centers				
25. Support psychosocial interventions for affected learners and staff				
26. Ensure communication and coordination with school DRRM coordinators during emergencies				
Step 4: MONITOR, EVALUATE & REPORT				
27. Community members help in post-disaster recovery				
28. Community contributes to post-disaster needs assessment				
29. Community engagement influences policy improvement				
30. Participate in post-disaster assessments and feedback sessions				
31. Help document lessons learned and recommend improvements to school DRRM plans				
32. Monitor the recovery and rehabilitation of school infrastructure and services				
33. Advocate for policy improvements based on community experiences and needs				
34. Ensure communication and coordination with school DRRM coordinators during emergencies				

Appendix D

Raw Interview Data and Transcribed Responses

On Community Engagement

Theme	Codes	Participant Quotes
1. Active Awareness and Information Dissemination	drills and campaigns; IEC materials; early warning systems; multi-channel communication	Informant 2 explained that, “Participate in routine drills and understand the hazard, risks, vulnerabilities in the barangay”
		Informant 3 reported that, “Earthquake drill, calamity and disaster preparedness session during assembly meetings”
		Informant 4 mentioned that, “Orientation only twice a year during synchronized assembly conducted by the MDRRMC”
		Informant 6 expressed that, “Una sa tanan 36 hours sa dili pa muabot ang katalagman, amo nang gipahibalo Pinaagi sa rekorida gamit ang megaphone, cellphone, Radio handheld ug uban pa.” “IEC ug pamahaw bahin nga flyers sa kaluwasan sa bagyo, linog, sunog, ug baha—mga materyales nga gi apanghatag sa PDRRMO nga puwede gamiton ug sundon sa mga barangay”
		Informant 7 highlighted that,

		<p>“Mga kalihokan para sa kabatan onan—DRRM WEmboree ug school based DRR roll outs (DepEd) aron mapa lig on ang kahibalo sa estudyante ug OSY pinaagi sa mga sesyon, drill, ug leadership nga kalihokan”</p> <p>Informant 8 emphasized that, “Mga awareness session sa first aid ug BLS uban sa TaRSIER 117/DOH ug LGU health teams—kasagarang gi pares sa emergency response demos aron mapa ayo ang bystander CPR ug unang pag atiman.”</p>
<p>2. Strong Multi-Stakeholder Collaboration</p>	<p>joint planning; involvement of LGUs and agencies; shared DRRM structures; MOAs</p>	<p>Informant 1 stated that, “The school DRRM Focal person is part or member of BDRRMC Structure of the barangay”</p> <p>Informant 2 described that, “Through joint planning, training and public awareness campaign”</p> <p>Informant 3 clarified that, “Collaboration first to the mmunicipal and from there proceed next to the other stakeholders”</p> <p>Informant 4 recounted that, “Our barangay has no school built. It is the only barangay in Bohol without a school or public school, even though it is located along the provincial highway. Because of this, the people, together with the barangay officials, work hand in hand whenever disasters strike.”</p> <p>Informant 5 indicated that, “Through assembly in coordination with the barangay council, tanods and BHWs”</p> <p>Informant 7 shared that, “First-aid/BLS upskilling of teachers, PTA reps, and student leaders with TaRSIER 117/DOH; drills include bystander CPR and casualty handling.”</p>
<p>3. Capacity Building Enhances Preparedness</p>	<p>DRRM trainings; first aid/BLS; fire safety; drills; skill development</p>	<p>Informant 1 shared that, “Training on camp management, first aid and basic-life support and orientation on roles and functions of each BDRRMC Members”</p> <p>Informant 2 explained that,</p>

		<p>“Training on DRRM Management on Disasters such as typhoon, earthquake, fire, arm conflict, el Niño, and Safe and Security”</p> <p>Informant 3 reported that, “BDRRM Seminars”</p> <p>Informant 4 mentioned that, “Our barangay is planning to request from the MDRRMO a comprehensive training about typhoons, earthquakes, fires, and other hazards.”</p> <p>Informant 5 noted that, “Inviting the local or municipal DRRMO personnel to train our Barangay DRRM”</p> <p>Informant 6 described that, “Earthquake-drill facilitation & NSED orientation. Teachers, PTA reps, and class officers trained to run evacuation, headcount, and comms checks consistent with provincial NSED exercises.”</p>
<p>4. Volunteerism and Community Participation</p>	<p>community volunteers; youth involvement; DRRM clubs; motivation through leadership</p>	<p>Informant 1 shared that, “Clean-Up Drive”</p> <p>Informant 2 reported that, “Tree-planting”</p> <p>Informant 3 explained that, “Only Day care center ang naa sa among barangay, Ang nagsuporta sa katawhan matag panghitabo o kalamidad are only the barangay officials”</p> <p>Informant 4 mentioned that, “Yes we have volunteers in our Barangay the organization of BDRRMC is composed of volunteers”</p> <p>Informant 5 noted that, “Aduna ug naa nagboluntaryo sa pagputol o pag pung-ol sa mga kahoy nga duol sa eskwelahan.”</p> <p>Informant 7 emphasized that, “Communications & info-desk volunteers—mo-apod-apod ug IEC flyers, magbantay sa help desk, ug motubag sa pangutana bahin sa protokol.”</p>
<p>5. Community-Based Risk Assessment and Local Knowledge</p>	<p>hazard mapping; household surveys; vulnerability identification; local insights</p>	<p>Informant 1 shared that, “Yes, the RDANA or Rapid Damage Assessment and Needs Analysis & PDANA Post Damage Assessment and Needs Analysis.”</p> <p>Informant 2 explained that, “Yes, by cleaning all the hazardous things near and within the school premises”</p> <p>Informant 3 expressed that,</p>

		<p>“Walay laing tawo nga unang morespondi matag purok kondili ang Purok Kagawad. Among tulubagon ang paghatag ug mga pahimangno kon nay kalamidad nga muabot.”</p> <p>Informant 4 reported that, “We completed joint training facilitated by the Fire Brigade Volunteers and Fire Station personnel, with the Philippine National Police (PNP) in attendance, focused on risk awareness and community-based risk assessment.”</p> <p>Informant 6 described that, “Pag-validate sa agianan pinaagi sa NSED dry-runs—gisuwayan sa ginikanan, tanod, ug estudyante ang agianan ug headcount; gisulat ang choke points ug kahimtang sa dalangpanan”</p> <p>Informant 8 emphasized that, “School Safety Audit (istruktural/non-istruktural) uban sa mga magtutudlo, PTA, ug BHWs—tan-aw sa mga panganod sa risgo ug signage—human dayon gi-update ang School DRRMP.”</p>
<p>6. Resource Constraints and Operational Challenges</p>	<p>limited funding; logistics issues; procurement delays; lack of equipment</p>	<p>Informant 1 reported that, “Lack or limited funds”</p> <p>Informant 2 mentioned that, “Miscommunication & slow responses”</p> <p>Informant 3 explained that, “As barangay officials, we take on the challenge of supporting every family in our purok. We serve as the first responders in our area.”</p> <p>Informant 4 stated that, “Budget allocation despite the approved budget from the 5% BDRRM Allocation.”</p> <p>Informant 6 described that, “Bug-at ang procurement ug dokumentasyon—makapahinay sa pagpagawas sa pondo sa gagmay’ng barangay/eskwelahan.”</p> <p>Informant 8 emphasized that, “Kuha og training sa espesyalisado nga kurso lisod ug mahal para sa gagmay’ng LGU/eskwelahan.”</p>

<p>7. Effective Communication and Early Warning Systems</p>	<p>advisory systems; color-coded alerts; communication tools; coordination channels</p>	<p>Informant 1 shared that, “Through Barangay Assembly (IEC), SOP’s & Protocols”</p> <p>Informant 2 explained that, “Conducting regular drills and training for students and community.”</p> <p>Informant 3 reported that, “The MDRRMO’s timely advisories consistently prove valuable whenever a hazard is expected in our town...”</p> <p>Informant 4 mentioned that, “Through coordination”</p> <p>Informant 5 noted that, “Naghimo ug MOA tali sa komunidad ug ang eskwelahan kabahin sa mga room nga maoy gamiton panahon sa katalagman sama sa bagyo”</p> <p>Informant 7 expressed that, “Yes, the barangay uses church bell for any emergency alert.”</p>
<p>8. Organized Emergency Response and Evacuation Management</p>	<p>evacuation protocols; CCCM practices; role clarity; coordination success</p>	<p>Informant 1 shared that, “Emergency hotline numbers are posted, having handheld radio/radio base control for communication”</p> <p>Informant 2 explained that, “By texting, chatting or attending their meeting or session.”</p> <p>Informant 3 reported that, “Pinaagi sa cellphone/ tawag system ang among koordinasyon sa MDRRMO.”</p> <p>Informant 4 mentioned that, “Through structuring the BDRRMC and checked the functions of each committee chairman.”</p> <p>Informant 5 noted that, “Pinaagi sa communication facilities sama sa handheld radio, cellphone, megaphone.”</p> <p>Informant 8 emphasized that, “Paghan-ay sa pagkaon/NFI... ration card...”</p> <p>Informant 9 pointed out that, “Seguridad—ang tanod ug barangay officials magtinabangay...”</p> <p>Informant 10 shared that, “SOP sa kolor (Yellow–Orange–Red): andam → pre-emptive → puwersadong evacuate.”</p>

<p>9. Holistic Recovery and Post-Disaster Support</p>	<p>PDANA processes; psychosocial support; infrastructure rebuilding; partnerships</p>	<p>Informant 1 reported that, “Health Equipment & Facilities and medicines.”</p> <p>Informant 2 explained that, “Health promotion, disease prevention and first-aid”</p> <p>Informant 3 shared that, “For every disaster, each barangay keeps essential supplies ready...”</p> <p>Informant 4 mentioned that, “They assigned personnel from the local department of health and DSWD in the evacuation center.”</p> <p>Informant 5 highlighted that, “24/7 nga TaRSIER 117 dispatch ug BLS trainings alang sa komunidad.”</p> <p>Informant 7 described that, “Barangay Health Workers... lead data gathering...”</p>
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On DRRM PRACTICES

Theme	Codes	Participant Quotes
<p>1. Structural and Non-Structural Risk Reduction Measures</p>	<p>infrastructure strengthening; environmental mitigation; safety installations; preventive systems</p>	<p>Informant 10 point out that “What we did on the structural side is elevate important equipment and even electrical outlets, so they won’t be easily damaged during flooding or storm surges.”</p> <p>Informant 13 stressed out that “In our case, we focused on improving the perimeter fence and strengthening the buildings to make them more disaster resilient.”</p> <p>Informant 14 emphasized that “We also installed some emergency devices and improved our drainage system to help control flooding in the school.”</p>
<p>2. Systematic Hazard Identification and Risk Assessment</p>	<p>hazard mapping; inspections; coordination with LGUs; data validation</p>	<p>Informant 9 emphasized that “We usually start by conducting regular inspections inside and outside the school to identify possible hazards.”</p> <p>Informant 13 stated that “We assess hazards by looking at how likely they are to happen and what their impact could be.”</p> <p>Informant 14 highlighted that “Aside from that, we review hazard maps from the LGU and consult barangay officials and even community elders, especially about past disasters.”</p> <p>Informant 15 stated that “We integrate DRRM lessons so students become more aware of hazards.”</p>
<p>3. Continuous Infrastructure Improvement for Safety</p>	<p>evacuation routes; safety upgrades; fire protection; drainage systems</p>	<p>Informant 9 stressed out that “We reinforced windows and doors to withstand strong winds.”</p> <p>Informant 10 stated that “We elevated electrical outlets and equipment to protect from flooding.”</p> <p>Informant 12 point out that “We follow standard safety requirements for infrastructure.”</p> <p>Informant 14 stated that “We secured the school perimeter and installed evacuation signages.”</p> <p>Informant 15 “For fire safety, we were able to acquire fire extinguishers, some provided by the LGU and others through our MOOE.”</p>
<p>4. Regular Preparedness Activities</p>	<p>drills; seminars; training; community participation; early warning orientation</p>	<p>Informant 10 stressed out that “We usually conduct quarterly earthquake drills, and sometimes we integrate</p>

<p>and Stakeholder Involvement</p>		<p>them into our lessons so learners can better understand their importance.”</p> <p>Informant 11 stated that “We conduct quarterly drills integrated in lessons.”</p> <p>Informant 12 highlighted that “Preparedness includes drills, training, and inspections.”</p> <p>Informant 13 stressed out that “In our case, we conduct monthly drills, rotating between earthquake, fire, and typhoon scenarios. We also conduct early warning system orientations so learners understand different signals and advisories.”</p> <p>Informant 15 point out that “In our school, aside from regular drills, we conduct pre-disaster meetings, especially when there is an incoming typhoon, where we review contingency plans and assign roles to teachers and staff.”</p>
<p>5. Capacity Building Through Orientation and Training</p>	<p>DRRM orientation; skill-based training; integration in curriculum; cascading of knowledge</p>	<p>Informant 9 emphasized that “Students and staff are usually oriented through regular drills and school-based activities related to DRRM and Teachers undergo mandatory DRRM training.”</p> <p>Informant 10 point out that “At the beginning of the school year, we conduct orientation sessions where we discuss hazard awareness, evacuation procedures, and safety protocols.”</p> <p>Informant 13 stated that “Disaster preparedness is also integrated into classroom discussions so learners can understand it better.”</p> <p>Informant 14 highlighted that “We also involve learners in brigades and simulation drills so they can actively participate and learn by experience.”</p> <p>Informant 15 stated that “We make sure that every learner is oriented, especially the younger ones, by demonstrating step by step what to do during earthquakes and floods, and we assign DRRM focal persons per grade level to guide both teachers and learners during drills.”</p>
<p>6. Persistent Challenges in Preparedness Implementation</p>	<p>limited budget; infrastructure gaps; communication issues; limited resources; engagement issues</p>	<p>Informant 10 stated that “Some of our school buildings still need repair or reinforcement to make them safer during disasters.”</p> <p>Informant 11 highlighted that “Communication issues occur during emergencies.”</p> <p>Informant 12 stressed out that “There is lack of coordination among stakeholders and Training levels are insufficient.”</p> <p>Informant 13 stated that “Budget is not enough.” “Equipment is limited.”</p> <p>Informant 15 stressed out that “One challenge we experience is sustaining the interest of learners during repeated drills because sometimes they don’t take it seriously anymore and the informant also stated that “Transportation and accessibility are challenges.”</p>
<p>7. Structured and Protocol-Based Emergency Response</p>	<p>DRRM activation; evacuation procedures;</p>	<p>Informant 11 stated that “Learners and staff are guided to evacuate to designated safe areas following established</p>

	communication systems; safety prioritization	<p>routes and the informant also stated that “We ensure safe and systematic evacuation.”</p> <p>Informant 15 stressed out that “We implement early warning systems.”</p>
8. Strong Coordination with Local Authorities	LGU coordination; advisory reliance; communication systems; joint planning	<p>Informant 9 emphasized that “We coordinate with local authorities through established communication channels and formal structures.”</p> <p>Informant 11 stated that “We work closely with barangay officials.”</p> <p>Informant 13 stated that “During emergencies, we follow LGU directives, especially regarding evacuation routes and relocation.”</p> <p>Informant 14 highlighted that “We rely on advisories.”</p>
9. Adaptive Disaster Response Experiences	evacuation centers; disaster experiences; recovery actions; coordination during crises	<p>Informant 9 stated that “Our school is prone to flooding, so during typhoons, we prepare the school as an evacuation center for those who need shelter.”</p> <p>Informant 11 stressed out that “We experienced typhoon-induced flooding, so we activated the DRRM Committee, evacuated learners, and coordinated with the LGU after receiving advisories from PAGASA.”</p> <p>Informant 13 stated that “I remember during a strong typhoon, some classrooms were flooded, especially those on lower ground, and we also experienced power outages and partial damage to classrooms.”</p> <p>Informant 14 stated that “There were times when classrooms were affected by flooding, so we had to relocate learners, adjust schedules, and manage both learners and evacuees when the school served as an evacuation center.”</p>
10. Ensuring Continuity of Learning and Holistic Recovery	modular learning; psychosocial support; flexible strategies; stakeholder support	<p>Informant 10 stated that “Temporary learning spaces may be set up if classrooms are not usable.”</p> <p>Informant 11 stated that “We also plan ahead by including alternative learning strategies in our DRRM plan and by preparing modules in advance, especially during typhoon season.”</p> <p>Informant 12 highlighted that “We adjust school calendar.”</p> <p>Informant 14 highlighted that “Teachers adjust lesson plans.”</p> <p>Informant 15 stressed out that “We use blended learning.”</p>