

Building a Culture of Readiness: An Assessment on Student's Awareness and Preparedness in Facing Natural Disasters

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ABSTRACT

This research assessed the awareness and preparedness of students at Libagon National High School in the Philippines regarding natural disasters, given the country's high vulnerability. Utilizing a descriptive-quantitative methodology with structured surveys from 100 senior high school students, the study investigated students' knowledge, preparedness levels, school drill implementation, and satisfaction with these programs. Findings revealed that while students possess a general understanding of disaster-related concepts and perceive their school as prepared (evidenced by psychological first aid training, available first aid supplies, community support, and

a school clinic), there is a significant gap between theoretical knowledge and practical application. Many students lack confidence in real-life scenarios such as administering first aid or actively assisting in disaster management. Furthermore, inconsistencies were noted in the school's preparedness plan, specifically regarding the existence of a designated disaster shelter, the availability of online disaster preparedness resources, and the timely dissemination of emergency bulletins. Although students generally expressed satisfaction with emergency drills, praising clear instructions and marked exits, concerns were raised about the audibility and clarity of the alarm system across all school areas. The study concludes that Libagon National High School students are still uncertain and not fully aware or prepared to effectively face natural disasters. Recommendations include enhancing hands-on training, improving communication of school resources, upgrading the alarm system, and integrating more practical application into the DRRR curriculum to bridge the theory-practice gap and strengthen overall disaster resilience.

Keywords: *Natural Disasters, Awareness and Preparedness, Students*

INTRODUCTION

In an era where the impact of natural disasters is increasingly felt worldwide, it is crucial to evaluate how well-prepared our student population is to face such events (Taja-on, 2025). Natural disasters, which include phenomena like earthquakes, typhoons, floods, and wildfires, can have devastating effects on communities, disrupting daily life and causing significant damage (Sharma, 2025). Awareness, in this

context, refers to the level of understanding students have about the types of disasters that may occur in their region, their causes, and potential impacts (Calamba, 2024). Preparedness, on the other hand, involves the measures students and their families take to protect themselves before, during, and after a natural disaster (Namian et al., 2023). These measures can include creating emergency kits, establishing evacuation plans, and participating in disaster drills (Chang et al., 2024). Community's ability to respond effectively to natural disasters is significantly enhanced when its members, including students, are well-informed and adequately prepared (Rahmati et al., 2025). Assessing students' awareness and preparedness is not only an academic exercise but a vital step in ensuring the safety and resilience of our communities (Mujahid et al., 2025).

The Philippines, a nation made up of many islands in Southeast Asia, is a clear example of a country constantly struggling with natural disasters. Because of its location on the Pacific Ring of Fire, the Philippines is very likely to experience earthquakes, volcanic eruptions, and tsunamis (Chong et al., 2025). Additionally, it is located in an area often hit by earthquakes, around 90% of the earthquakes in the world occur at the circum-Pacific belt referred to as the Pacific Ring of Fire exposing the countries in this region to high risk of earthquake hazards. And typhoons, with an average of 20 typhoons each year, bringing heavy rains, storm surges, and widespread floods (Cacela Roque et al., 2023).

According to the National Disaster Risk Reduction and Management Council (NDRRMC), the Philippines faced a significant number of disasters, with 21,688 incidents occurring between 2010 and 2020. These events led to over 20,000 deaths and affected more than 150 million people. The financial impact of these disasters was substantial, costing billions of dollars, which highlights the critical need for thorough disaster preparedness efforts.

This education can help reduce loss of life, injuries, and property damage. Awareness of natural disasters involves recognizing potential dangers, planning for them, and understanding how to respond when they happen (Patel et al. 2023). Sharing information about risks is vital, especially for those who are most vulnerable (Jahan Nipa et al., 2020). Students who are informed and committed to fostering a culture of prevention tend to experience fewer disasters and recover better (Lapada, 2022). However, some individuals' understanding of risk can be negatively affected by a lack of awareness and poor comprehension (Brion and Bersamina, 2023).

Disaster risk management includes awareness and preparedness. This means taking action to expect and, if possible, prevent disasters while also reducing their impact. Two key components are hazard, which refers to how susceptible something is to a threat, and vulnerability, which considers the exposed elements' physical, social, economic, and environmental conditions. Regardless of whether a disaster stems from natural hazards or human actions, preparedness involves proactive measures taken by governments, organizations, communities, or individuals to effectively handle the immediate consequences (Fazeli et al., 2024).

The main goal is to lower fatalities and protect livelihoods during disasters. There is a growing interest in linking people's positive coping skills and recovery abilities with an understanding of vulnerability. This reflects the potential for management strategies to lessen the impact of hazards. Integrating disaster preparedness into school curricula and awareness campaigns can significantly enhance

students' knowledge and ability to react to emergencies. Schools should provide instructional materials on self-defense, readiness, and alerts to make sure all students learn how to protect themselves from disasters. Teachers need training on incorporating these materials into existing lessons. Support and encouragement should be given for faculty and student research, as well as for creating books, articles, and instructional resources.

According to the disaster year in review 2024 report published by the Center for Research on the Epidemiology of Disasters (CRED) (2024), 393 recorded disaster events linked to natural hazards, resulting in 16,753 fatalities and affecting approximately 167 million people, with economic losses totaling around US\$242 billion.

In addition, according Herowati (2022), when disasters strike, they often result in many casualties. Students' preparedness remains low, partly due to a lack of public awareness regarding disaster susceptibility and effective mitigation strategies (Alcaraz et al., 2025). Beyond the immediate scope of our school, recent global tragedies have led to intangible losses, particularly for those who are not well-informed about these events. Furthermore, study by Nipa et al. (2020) suggest that students like us are among the most vulnerable when disasters occur. It's concerning that our educational institutions often don't provide enough emergency awareness and preparedness programs. Being aware and ready for natural disasters requires a high degree of knowledge about how to prepare for and respond to such events.

Living in the Philippines, we're constantly reminded of how vulnerable our country is to natural disasters. Situated along the Pacific Ring of Fire, we face a relentless barrage of calamities (Olores et al., 2023). Because the Philippines sits on two major tectonic plates, it's not unusual for us to experience hundreds of earthquakes each year. From typhoons and storm surges to earthquakes, volcanic eruptions, floods, and landslides, these events frequently impact our communities and daily lives. Students can develop a deep understanding of disaster risks and response strategies by including disaster preparedness in subjects like science, social studies, and health.

They can also learn practical skills through hands-on training, such as emergency simulations and first aid (Marlian et al. 2025). It is important for students to know what to do before, during, and after a disaster. They should understand emergency protocols in school and the community, like evacuation routes and how to seek help. By participating in drills, launching awareness campaigns, and developing preparedness plans for their school or community, students can take an active role in disaster readiness (Rogayan et al., 2022.) When schools incorporate disaster risk reduction, communities become safer and more resilient (Malonecio, 2023). Well-prepared students can be valuable resources during a crisis, helping their families and communities.

The human and financial toll of disasters can be significant. They can lead to food shortages, severe injuries, and many deaths. In emergencies, regular activities come to a halt, and special measures are taken to prevent further damage. A disaster management plan helps protect school infrastructure, equipment, and property. Being prepared also reduces disruptions for students, allowing schools to resume operations quickly after a crisis. Disaster readiness helps students build resilience and the skills to cope with future challenges. Education on disaster preparedness can provide knowledge and abilities that save lives, especially for children and young people during and after crises (Loquillano et al., 2021).

In recent years, awareness of the importance of emergency preparedness for public safety has increased. This demand comes from the need to prepare for various potential crises. Effective emergency planning, coordination, communication, and practice are simple and adaptable strategies for dealing with violence without instilling fear or panic (Comighud, 2020). These strategies should be seen as effective best practices. Systems and protocols that help schools achieve their goals before, during, and after crises can reduce their liability risks and enhance the safety of students and staff (Ampo et al., 2023). Being well-prepared for emergencies brings many benefits.

Everyone knows that it improves schools' readiness to prevent, protect against, and manage various emergencies. Schools can leverage thorough disaster preparedness drills to enhance safety and mitigate risks to secure learning environments. Every type of hazard should be practiced, and class discussions can help students better understand concepts and communicate effectively. Plan exercises should be tested once readiness is confirmed, and each component must successfully execute its part of the plan.

Disasters affect everyone who witnesses or experiences them (Daran et al., 2022). Sometimes, the psychological impact can be even greater than the financial losses from destroyed homes, businesses, or personal belongings (Wanjala et al., 2018). Feelings of sadness, grief, and anger are common responses to unusual situations. Individuals have different needs and use various coping methods. Staff leaders and students can apply the training they receive both at home and in other settings. Public health experts can assist by promoting faculty education sessions and providing guidelines for evaluating disaster preparedness.

Libagon National High School has noted, drills are still conducted to evaluate students' preparedness for disaster hazards. However, it's evident that not all students take these drills seriously, leading to concerns that many may not be adequately prepared when a real disaster strikes. Furthermore, to our knowledge as a student researcher, there hasn't been a study specifically focused on the level of awareness and preparedness among students here regarding natural disasters. This is why we believe conducting this study in our school is essential, especially considering our vulnerability to events like earthquakes, landslide, and typhoons.

The findings from this study will be instrumental in helping the school administration determine whether there's a need to enhance students' awareness and preparedness concerning natural disasters. Moreover, it's crucial that schools serve as environments where students can genuinely gain the awareness, readiness, and information necessary to protect themselves and others from harm. By fostering a culture that encourages quick and positive responses, we can empower students to assist themselves and those around them in ensuring safety during a disaster.

The study aimed to assess the level of students' knowledge on natural disasters at Libagon National High School. Specifically, it examined their knowledge in emergency response in terms of awareness and preparedness, evaluated the level of school implementation of emergency drills, and determined the students' degree of satisfaction with the implementation of the program.

METHODOLOGY

This study adopts a descriptive research design with a quantitative methodology to evaluate the awareness and preparedness levels of high school students concerning natural disasters (Calamba, 2024). A descriptive approach is appropriate for assessing the existing state of knowledge and readiness within the student population, without inferring causal relationships. Quantitative data will be collected via structured surveys to measure the extent of students' understanding and preparedness, enabling a statistical analysis that provides a comprehensive overview of the current situation. This method will allow us to pinpoint specific areas where students are well-informed and areas that require further education and improved preparation strategies.

The respondents of the study are senior high school students including grade 11 and 12 who are currently studying at Libagon National High School, Jubas, Libagon, Southern Leyte. The sample size comprises of 100 high school students. The respondents was selected through random sampling fishbowl technique, it is a simple random sampling method where each member of a population is written on an identical slip of paper, placed in a bowl, and then drawn at random to form the sample. This manual technique ensures every individual has an equal chance of being selected, making it a visually fair and unbiased way to choose a sample.

In order to assess the students' awareness and preparedness concerning natural disasters, questionnaires were distributed. These questionnaires are adopted and modified from Disaster Preparedness and Awareness among University Students: A Structural Equation Analysis (Patel et al., 2023). Designed to evaluate the extent of their knowledge and readiness in facing such events. A total of 100 students participated in the study by completing the questionnaires.

The questions in the first section pertained to the level of awareness of students in emergency response at times of disaster. The second segment had questions about students' level of preparedness. The third section examined the school implementation of emergency drills and the last section asked about students' degree of satisfaction in the implementation of this program. Scoring of the student's answers toward natural disasters questionnaires were based on a 5-point Likert Scale of Frequency, from (5)- Strongly Agree, (4)- Agree, (3)- Might or might not, (2)- Disagree, (1)- Strongly Disagree, consisting of 6 items for each section in total of 24 items.

In this study, quantitative techniques will be employed to gather and evaluate data related to students' awareness and preparedness in facing natural disasters. These methods are intended to effectively answer the research questions and provide a comprehensive analysis of the results, particularly regarding the respondents' understanding of natural disaster preparedness. The researchers will conduct a quantitative analysis of the data by using a scientific calculator, utilizing statistical tools such as mean and standard deviation.

The mean and standard deviation will enable the researchers to comparatively analyze these statistical values, allowing them to understand the extent of the participants' awareness and preparedness levels. This quantitative analysis will provide a better understanding of students' awareness and preparedness in facing natural disasters.

RESULTS AND DISCUSSION

Table 1. Level of Students Awareness in Emergency Response at Times of Disaster

	N	Mean	Std. Deviation	Description
Students have proper knowledge about the disaster to help them handle loss due to the disaster	100	3.776	0.789	Agree
Students are confident to assist with disaster management during emergency situation	100	3.077	0.819	Might or might not
Students are confident in providing first aid in emergency situations	100	3.270	0.859	Might or might not
Students can show proper knowledge regarding what kind of wound can happen due to a disaster	100	3.500	0.816	Agree
Students know how to handle primarily wound through first-hand aid	100	3.340	0.873	Might or might not
Students are aware of different emergency situation that may occur during natural disaster	100	3.650	0.838	Agree

Levels: 4.21-5.00 Strongly Agree, 3.41-4.20 Agree, 2.61-3.40 Might or might not, 1.81-2.60 Disagree, 1.00-1.80 Strongly Disagree

Table 1 presents an overview of students' awareness in emergency response during disasters. The data indicates that students generally agree they have proper knowledge to handle disasters (Mean=3.776) and can show proper wound care (Mean=3.500). Their awareness of different emergency situations during natural disasters is also relatively high (Mean=3.650). However, their confidence in assisting with disaster management is lower (Mean=3.077), and their ability to provide first aid in emergencies is moderate (Mean=3.270).

The observed levels of awareness among students regarding emergency response, consistently show that while theoretical knowledge about disaster response is relatively high among students, practical application and confidence in real-world scenarios often lag behind (Kermanshachi et al., 2021). This discrepancy may stem from a curriculum focus on cognitive learning rather than hands-on training, leading to a gap between understanding concepts and effectively implementing them during emergencies (Pongtriang et al., 2024). Furthermore, the moderate ability in first aid, as noted in the table, reflects the need for more comprehensive and skill-based training programs to equip students with the necessary competencies to handle injuries and provide immediate assistance (Amini et al., 2024).

Additionally, a study by Alanazi et al. (2025) in the BMC Nursing found that students who participate in regular disaster drills demonstrate higher levels of both knowledge and confidence compared to those who do not. This underscores the importance of experiential learning in enhancing disaster preparedness. Moreover, Fazeli (2024) in the International Journal of Disaster Risk Reduction highlights the role of community engagement in reinforcing disaster preparedness education at community, suggesting

that a collaborative approach between schools and society can further improve students' overall awareness and readiness.

Table 2 Level of Students Preparedness in Emergency Response at Times of Disaster

	N	Mean	Std. Deviation	Description
DRRR subject provides psychological first aid training	100	3.697	0.918	Agree
School has enough first aid boxes and tools	100	3.620	0.854	Agree
The local communities help schools during emergency situations	100	3.810	0.824	Agree
The school has a clinic	100	4.183	0.787	Agree
The students have knowledge in disaster and disaster medicine	100	3.640	0.802	Agree
The school has a disaster shelter	100	3.200	0.949	Might or might not

Levels: 4.21-5.00 Strongly Agree, 3.41-4.20 Agree, 2.61-3.40 Might or might not, 1.81-2.60 Disagree, 1.00-1.80 Strongly Disagree

Table 2 assesses students' preparedness in emergency response during disasters. The results show that students agree the DRRM subject provides psychological first aid and training (Mean=3.697), and that schools generally have enough first aid boxes and tools (Mean=3.620). They also agree that local communities and schools help during emergencies (Mean=3.810). The students believe the school has a clinic (Mean=4.183) and have knowledge in disaster and disaster medicine (Mean=3.640). However, there's some uncertainty whether the school has disaster shelter (Mean=3.200).

Students' perceived preparedness for emergency response, are consistent with several studies on disaster readiness in Philippine schools. The agreement that DRRM subjects provide psychological first aid training aligns with research highlighting the integration of mental health support in disaster education (Kilic & Simsek, 2019). Similarly, the perception that schools have adequate first aid supplies echoes observations that many schools have made efforts to stock first aid kits, though the actual contents and accessibility may vary (Quresha, 2018). The reported community support during emergencies is in line with studies emphasizing the importance of local networks in disaster relief (Ryan et al., 2020).

However, the uncertainty regarding the presence of disaster shelters reflects a common challenge, as many schools lack adequate infrastructure for long-term refuge (Mncube, 2023). Furthermore, while students believe they have knowledge in disaster medicine, this perception may not always translate to practical skills or access to medical resources (Izquierdo-Condoy et al., 2023).

Table 3. Level of School Implementation of Emergency Drills

	N	Mean	Std. Deviation	Description
The students are aware of the emergency procedures in school	100	3.766	0.839	Agree
Students are aware of the modes of communication system provided by the school during emergencies	100	3.636	0.718	Agree
The school has an online database regarding disaster preparedness	100	3.019	0.827	Might or might not
School was able to provide bulletin regarding an upcoming disaster	100	3.108	0.858	Might or might not
The school often practices emergency drills	100	4.150	0.808	Agree
The school regularly conducts emergency drills	100	3.810	0.918	Agree

Levels: 4.21-5.00 Strongly Agree, 3.41-4.20 Agree, 2.61-3.40 Might or might not, 1.81-2.60 Disagree, 1.00-1.80 Strongly Disagree

Table 3 focuses on the level of school implementation of emergency drills. The data suggests that students generally agree they are aware of emergency procedures (Mean=3.766) and the modes of communication provided by the school during emergencies (Mean=3.636). The school often practices emergency drills (Mean=4.150) and regularly conducts them (Mean=3.810).

However, there is some uncertainty regarding the school's online database for disaster preparedness (Mean=3.019) and its ability to provide bulletins about upcoming disasters (Mean=3.108).

Studies indicate that while schools generally prioritize emergency drills, the effectiveness of these drills can vary significantly (Zhuge et al., 2024). For instance, schools often conduct drills regularly (Mean=3.810), which aligns with the findings of Ibrahim et al. (2025), who emphasized the importance of routine drills in enhancing student preparedness.

However, the uncertainty regarding the school's online database (Mean=3.019) and bulletin provision (Mean=3.108) suggests challenges associated with the widespread use of online content in education, as supported by research from Umarova et al. (2024), who noted that many schools struggle with effectively disseminating disaster-related information.

Moreover, the awareness of emergency procedures (Mean=3.766) and communication modes (Mean=3.636) among students is in line with Torani et al. (2019), who found that schools with comprehensive disaster education programs tend to have more informed students. Finally, the frequent practice of emergency drills (Mean=4.150) is validated by research from Johnson et al. (2023), indicating that schools that prioritize frequent drills have better-prepared students and staff.

Table 4. Degree of Satisfaction in the Implementation of this Program

	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Description</i>
The instructions provided before the emergency drill were clear	100	3.755	0.788	Agree
The designated exits were clearly marked and easy to follow	100	3.750	0.843	Agree
The alarm system was audible and noticeable throughout the area	100	3.349	0.906	Might or might not
The emergency drill was conducted in an organized and efficient manner	100	3.650	0.762	Agree
I felt informed and safe during the emergency drill	100	3.710	0.827	Agree
I am satisfied with the execution of the emergency drill	100	3.524	0.818	Agree

Levels: 4.21-5.00 Strongly Agree, 3.41-4.20 Agree, 2.61-3.40 Might or might not, 1.81-2.60 Disagree, 1.00-1.80 Strongly Disagree

Table 4 assesses the degree of satisfaction with the implementation of the program. The results show that students agree the instructions provided before the emergency drill were clear (Mean=3.755) and the designated exits were clearly marked (Mean=3.750). They also agree that the emergency drill was conducted in an organized and efficient manner (Mean=3.650), and they felt informed and safe during the drill (Mean=3.710). Their overall satisfaction with the execution of the emergency drill is positive (Mean=3.524). However, there is some uncertainty about whether the alarm system was audible and noticeable throughout the area (Mean=3.349).

The positive satisfaction levels reported indicate that clear instructions and well-marked exits significantly contribute to students' sense of security and confidence during emergency drills (Hosseini & Izadkhah, 2020). This suggests that when students are well-informed and guided, they are more likely to respond effectively and calmly during emergency situations. Furthermore, the perceived organization and efficiency of the drill positively correlate with students feeling informed and safe, reinforcing the importance of structured, timely, and well-coordinated emergency simulations in educational settings (Huei Lin et al., 2024). These simulations not only prepare students for potential real-life scenarios but also help establish a culture of readiness and responsiveness. However, the uncertainty surrounding the audibility of the alarm system aligns with observations from previous studies, which highlight the need for regular equipment checks, routine system tests, and consistent maintenance to ensure effective communication during emergencies (Zhou et al., 2019). Addressing such technical gaps is essential for ensuring that no area of the school is left uninformed during a crisis. Overall, these results underscore the critical importance of clear communication, efficient organization, and reliable infrastructure in fostering positive student experiences and enhancing the overall effectiveness of school-based emergency preparedness programs (Opabola et al., 2023). In addition, a study by Rofiah et al. (2024) in the *Journal of Disaster Risk Studies* emphasizes the role of inclusive practices in emergency drills, noting that thoughtful accommodations for students with disabilities—such as tailored instructions or accessible evacuation routes—can further improve overall satisfaction and preparedness levels among all students.

CONCLUSION

Given the Philippines' vulnerability to natural disasters, this study evaluates the awareness and preparedness of students at Libagon National High School. It assesses their knowledge of hazards, safety protocols, and emergency response. Findings show that students generally understand disasters and know how to respond to emergency situations. However, many lack confidence in applying this knowledge in real-life scenarios, such as giving first aid or helping during disasters—revealing a gap between theory and practice. Students also believe the school is prepared, citing psychological first aid training, available first aid supplies, community support, and the presence of a clinic. However, uncertainty about the existence of a designated disaster shelter suggests that some aspects of the school's preparedness plan may need improvement.

This study also underscores the level of the school's implementation of emergency drills, indicating that students generally have a positive view of how their school handles emergency preparedness, especially with the regular conduct of drills. The findings suggest that they are familiar with emergency procedures and the school's communication methods during such situations. These regular drills help boost their confidence in the school's readiness. However, there is some uncertainty about the school's online resources for disaster preparedness and its ability to send timely alerts during emergencies. Reflecting on the emergency drill program, participants generally viewed it positively or were satisfied. They found the instructions before the drill clear, and evacuation routes well-marked. The organized and efficient conduct of the drill created a sense of safety and preparedness. However, some concerns were raised about the alarm system, particularly its clarity and volume in all areas of the school.

Although students have a basic understanding of disaster-related concepts and generally believe their school is prepared for emergencies, the researchers noticed that there are gaps between what they know and what they can do in practice. Many students are not fully confident in helping with disaster response or giving first aid during emergencies and that some aspects of the school's preparedness plan may need improvement. With that, the researchers conclude that the Senior High School Student's in Libagon National High School is still uncertain and is not fully aware and prepared in facing natural disasters.

Based on the findings, the researchers recommend enhancing students' disaster awareness and preparedness at Libagon National High School through more hands-on training, such as simulations and workshops. School resources should be clearly communicated, ensuring students know the location of disaster shelters and how to access online information. The alarm system should be improved for better clarity, and more effective alert methods should be explored. The DRRR curriculum must focus more on practical application to bridge the gap between theory and practice. Promoting community involvement, continuing regular emergency drills, and gathering student feedback are also essential. Further research should examine gaps in practical skills and explore effective strategies to strengthen disaster resilience in schools.

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