



ENVIRONMENTALLY RESPONSIBLE BEHAVIOR AND DISASTER PREPAREDNESS AMONG PUBLIC ELEMENTARY SCHOOL TEACHERS

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Abstract:

This study examined the significant relationship between environmentally responsible behavior and disaster preparedness among public elementary school teachers in Babak District and explored the relationship between these variables. This study employed a quantitative, non-experimental research approach, utilizing a descriptive correlation research design. This study used total population sampling, with 58 public elementary school teachers as the respondents from five schools in the district. The data were analyzed using various statistical tools, including Mean, Pearson Product-Moment Correlation Coefficient, and Multiple Linear Regression Analysis. The findings revealed that teachers consistently demonstrate very high levels of environmentally responsible behavior, particularly in personal responsibility and attitude, emphasizing their proactive role in fostering safe and sustainable school environments. Similarly, disaster preparedness was also rated very high, with strong engagement in assessment, planning, and protective measures, emphasizing their active involvement in creating a safe and well-prepared learning environment. Notably, the correlation analysis showed a significant positive relationship between environmentally responsible behavior and disaster preparedness, indicating that teachers who exhibit responsible environmental practices are also more prepared to manage disasters. Regression analysis further revealed that knowledge and disaster awareness significantly predicts disaster preparedness. These results highlight the importance of integrating environmental responsibility and disaster preparedness in professional development and policy frameworks, suggesting that fostering one can enhance the other to ensure safer, more resilient learning environments.

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Keywords: environmentally responsible behavior, disaster preparedness, public elementary school teachers, sustainable development goals

1. Introduction

Disaster preparedness among public elementary school teachers in the Philippines is a pressing concern, particularly as natural and man-made disasters threaten communities (Blanchard, 2024). The geographical vulnerability of the Philippines to various calamities makes schools especially at risk, as students rely heavily on their teachers for safety and guidance during emergencies (UNDRR, 2019; David *et al.*, 2018). However, despite increased global awareness of disaster risks, many teachers remain unprepared to respond effectively. Numerous schools lack adequate structural preparedness and resources, leaving teachers to act as first responders without sufficient training (Atkinson & Fowler, 2023). This situation is further compounded by findings indicating that teachers often lack motivation to engage in effective disaster preparedness behaviors, primarily due to a low perception of threat (Salita *et al.*, 2021). For instance, a study by Sonmez and Gokmenoglu (2023) in Turkey revealed that while teachers recognized the benefits and felt self-efficacious regarding disaster preparedness, their perceptions of urgency and the specific actions required for effective preparation were moderate or low. This suggests that even when teachers acknowledge the importance of preparedness, they may not fully grasp the urgency or the concrete steps necessary to prepare adequately for potential disasters. Consequently, there is an urgent need to explore the factors contributing to effective disaster preparedness in schools (Patel *et al.*, 2023).

Moreover, the insufficient integration of disaster education into teacher training programs has significantly contributed to the lack of preparedness among teachers. For instance, many teachers lack adequate disaster response and management training, often resulting in confusion and ineffective actions during emergencies (Şeyihoğlu *et al.*, 2021; Ajar, 2023). Consequently, Dewi (2020) emphasized that this gap underscores the importance of a proactive approach to disaster risk reduction through education. Similarly, Yusuf *et al.* (2022) emphasized that tackling these challenges is vital for cultivating a culture of safety and resilience in schools, ensuring teachers are adequately prepared to respond to emergencies effectively.

Furthermore, a study by Mohamed Seif *et al.* (2024) revealed that nearly 40% of teachers in industrial secondary schools in Egypt had poor knowledge of emergency preparedness. This underscores the pressing need for ongoing safety and first-aid training, as inadequate knowledge can severely compromise the safety of students during emergencies. In addition to these findings, Rahma *et al.* (2024) explored geological disaster preparedness among early childhood educators in Indonesia. Their research indicated that structured education programs significantly improved readiness among educators; however, they also identified persistent gaps in warning systems.

Additionally, the research by Alcayna *et al.* (2016) provides a broader context by exploring the institutional mechanisms for disaster preparedness in the Philippines,

indicating that effective training and awareness programs are essential for building resilience among educators. This is particularly relevant given the Philippines' status as one of the most disaster-prone countries globally, necessitating a robust framework for disaster education and preparedness within the educational system (Cruz & Ormilla, 2022).

Subsequently, the significance of disaster preparedness among teachers extends beyond individual readiness; it encompasses the broader implications for student safety and the community. Iqbal *et al.* (2024) note that teachers are often the first responders in school emergencies, and their preparedness directly influences the safety and security of students. Moreover, O'Toole & Friesen (2016) emphasize that when teachers are well-trained, they can provide immediate support and guidance, helping to reduce panic and confusion among students. In addition, Atmojo (2021) found that teachers in disaster-prone areas possess strong knowledge of disaster education and actively teach it to students, emphasizing the necessity of incorporating disaster education into the curriculum. Furthermore, schools often serve as critical hubs during emergencies, offering shelter and support to affected families. Thus, when teachers are equipped with the knowledge and skills to manage disasters, they can extend their expertise to students and their families, fostering a culture of preparedness that benefits the entire community (Mayasari & Utaminingsih, 2022).

Nevertheless, the lack of preparedness among teachers can have severe consequences for students. Afrianti (2023) emphasizes that teachers must be equipped with knowledge of emergency measures, evacuation procedures, and safety equipment to respond swiftly during disasters. Teachers may fail to implement essential safety protocols without this training, potentially leading to student injuries or fatalities. Similarly, Kari Baker (2022) noted that inadequate preparation results in chaos, endangering students and teachers, particularly young children who require structured guidance. Moreover, Mersal and Aly (2016) also emphasize that the safety of children is a fundamental right, and unprepared teachers compromise this right by being unable to manage emergencies effectively.

Furthermore, studies have shown that teachers' preparedness can significantly influence their ability to manage classroom safety during disasters. Uhm and Oh (2018) found that teachers who engage in personal disaster preparedness are more likely to minimize disaster-related injuries and fatalities. Conversely, unprepared teachers may endanger their students and themselves, as they may lack the knowledge to protect their safety during emergencies (Rahmawati & Iriani, 2021). Therefore, disaster preparedness among teachers is crucial in ensuring their and their students' safety during emergencies. Teachers can effectively minimize disaster-related injuries and fatalities by being well-prepared and fostering a safer classroom environment.

Moreover, the link between environmentally responsible behavior and disaster preparedness among teachers is gaining significant attention in recent research. A study by Gaurano and Andal (2024) shows that environmentally responsible behavior significantly influences teachers' disaster preparedness. Studies show that

environmentally responsible behavior can positively impact habits in the long run, contributing to the overall welfare of the environment.

This study anchored the Theory of Planned Behavior (TPB) as its theoretical framework to understand the factors influencing teachers' disaster preparedness. The TPB emphasizes the impact of attitudes, subjective norms, and perceived behavioral control on teachers' intentions to engage in preparedness activities. Teachers' intentions are shaped by their beliefs about the benefits and consequences of disaster preparedness, the perceived expectations of their peers and community, and their confidence in their ability to successfully perform the necessary actions for disaster readiness. According to Ajzen (1991), teachers who hold positive attitudes toward preparedness, perceive social support and feel confident in their ability to act are likelier to engage in preparedness behaviors.

Another theory used in this study is Social Cognitive Theory (SCT): SCT underscores the importance of cognitive factors in motivating actions and suggests that increasing teachers' sense of control and social support can improve disaster preparedness practices. This theory suggests that teachers are more likely to adopt disaster preparedness behaviors by observing and learning from their peers and the community's practices. Bandura (2002) highlights the power of observational learning, asserting that teachers are more likely to engage in preparedness activities when they see others successfully doing so.

The Community-Based Disaster Risk Management (CBDRM) was also used in this study. This framework emphasizes the active involvement of communities in identifying, analyzing, and addressing disaster risks to reduce vulnerabilities and enhance local capacities. CBDRM focuses on the engagement of community members, including educators, in the disaster preparedness process. Tan (2022) stated that by fostering awareness of disaster risks and promoting environmentally responsible behaviors, teachers are empowered to contribute to community resilience, effectively identifying risks and formulating risk reduction measures.

This study examines the relationship between environmentally responsible behavior and disaster preparedness among public elementary school teachers. Understanding these factors is crucial for enhancing readiness in response to natural and man-made disasters. According to Onyango *et al.* (2017), a natural disaster results from natural hazards that can cause loss of life, property damage, and environmental harm.

This study has two variables: an independent variable and a dependent variable. The independent variable, *environmentally responsible behavior*, is measured using five indicators adapted from Guarano and Andal (2024). These indicators encompass various dimensions of proactive engagement with disaster preparedness. These include *intention to act*, which involves participation in preparedness activities such as training and drills; *locus of control*, reflecting the belief in one's ability to influence disaster outcomes; *attitudes*, describing a proactive disposition toward disaster mitigation; *sense of personal responsibility*, highlighting accountability for ensuring safety within the school,

community, and family; and *knowledge and disaster awareness*, focusing on understanding risks, disaster types, and mitigation strategies.

On the other hand, the dependent variable, *disaster preparedness*, evaluates teachers' capacity to manage emergencies effectively. This variable is also grounded in Guarano and Andal's (2024) framework and is measured through four key indicators. *Assessment and planning*, which involves creating and reviewing disaster response plans and conducting risk evaluations; *physical and environmental protection*, emphasizing hazard mitigation and infrastructure safety; *response capacity and development*, focusing on mastery of protocols, equipment usage, and evacuation procedures; and *practicing, monitoring, and improving*, which centers on regular drills, training, and updates to preparedness strategies.

Nevertheless, based on the description above, it is necessary to conduct further research and studies related to disaster preparedness, particularly in the education sector. So far, existing literature and published studies on disaster preparedness are still very few, particularly studies on disaster preparedness and teachers' environmentally responsible behavior. Thus, this study fills the existing knowledge gap. Moreover, most existing studies on disaster preparedness within educational contexts tend to focus on secondary schools or higher education institutions, where students are generally older and may possess different risk perceptions and understanding levels. In contrast, elementary school teachers face unique challenges as they guide younger children, who rely heavily on adult supervision and direction during emergencies. Hence, this study addresses these distinct challenges and responsibilities by examining public elementary school teachers, who are vital in preparing for disasters involving young children.

Furthermore, the Babak District, which includes barangays such as Tambo, Balet, Libuak, San Isidro, and Tagpopongan, faces significant environmental and disaster-related risks, making this study particularly urgent. A study conducted by Jocson and Magallon (2018) highlighted that these barangays—Tambo, Balet, Libuak, San Isidro, and Tagpopongan—are considered first priorities for disaster risk reduction and management interventions due to their vulnerability to natural hazards. Therefore, the researchers are particularly concerned with the specific context of public elementary school teachers in the Philippines, especially in the Babak District, highlighting the urgent need to address disaster preparedness to ensure the safety of all, including young minds.

The primary goal of this study is to determine the relationship between environmentally responsible behavior and disaster preparedness among public elementary school teachers in Babak District. The research attempts to respond to the following questions:

1. What is the level of environmentally responsible behavior among public elementary school teachers in terms of:
 - 1.1 Intention to Act;
 - 1.2 Locus of Control;
 - 1.3 Attitude;
 - 1.4 Sense of Personal Responsibility; and

- 1.5 Knowledge and Disaster Awareness?
2. What is the level of disaster preparedness among public elementary school teachers in terms of:
 - 2.1 Assessment and Planning;
 - 2.2 Physical and Environmental Protection;
 - 2.3 Response Capacity and Development; and
 - 2.4 Practicing, Monitoring, and Improving?
3. Is there a significant relationship between environmentally responsible behavior and disaster preparedness among public elementary school teachers?
4. Which domain of environmentally responsible behavior best predicts disaster preparedness among public elementary school teachers?

This study holds significant implications for various stakeholders involved in disaster risk reduction and education, particularly public elementary school teachers. By examining the relationship between environmentally responsible behavior and disaster preparedness, the research aims to provide valuable insights into how these factors shape teachers' readiness to respond to disasters. Specifically, the significance of this study extends to several parties: School administrators would benefit significantly from these findings as they guide the formulation of strategies that enhance disaster preparedness and promote environmentally responsible behavior among teachers. Additionally, by understanding the specific challenges faced in disaster preparedness, administrators can create supportive frameworks that encourage proactive participation in disaster risk reduction initiatives.

Moreover, teachers and educators, especially those in public elementary schools, also directly benefit from this study. The research offers crucial insights into their role in disaster preparedness, emphasizing how increased awareness of disaster risks and the development of responsible environmental behaviors can empower them to take an active role in preparing their students and communities for potential disasters. Furthermore, future researchers can expand on this study by exploring other aspects of disaster preparedness in schools, helping to create better strategies for managing disaster risks and improving school safety.

2. Material and Methods

2.1 Research Respondents

The respondents of this study were the public elementary school teachers from the Babak District of the Island Garden City of Samal, Philippines. The sample size of this study consisted of 58 teachers across five locations: 17 teachers in San Isidro Integrated School, 12 teachers in Jose N. Cabunilas Elementary School (Tambo), 12 teachers in Balet Elementary School, 9 teachers in Tagpopongan Elementary School, and 8 teachers in Libuak Elementary School. Most academics believed that the least acceptable sample size for a correlational study is 30. Roscoe (2021) suggested that a sample size between 30 and 500 is appropriate for conducting research.

Moreover, this study employed total population sampling due to the moderate population size, allowing the inclusion of all teachers across the selected areas to obtain a comprehensive perspective on disaster preparedness. According to Canonizado (2020), total population sampling is a purposive sampling technique that involves analyzing the entire population possessing specific characteristics. Hence, the study focused only on public elementary school teachers currently employed in elementary schools in Tambo, Balet, Libuak, San Isidro, and Tagpopongan. Therefore, the study did not include teachers from other schools, teachers employed in private schools or other types of educational institutions, and those who refuse to participate. Moreover, the respondents could withdraw their consent and discontinue participating without penalty when any ethical considerations were debated.

The research is set in the Babak District, Island Garden City of Samal, covering Tambo, Balet, Libuak, San Isidro, and Tagpopongan. This district combines coastal and inland terrain, featuring low-lying areas susceptible to coastal hazards and elevated regions prone to flooding and landslides during heavy rains. The district's varied geographic features make it ideal for examining disaster preparedness, as residents, including teachers, face a range of natural hazards. Babak District was selected due to its exposure to multiple disaster risks such as typhoons, earthquakes, floods, fires, coastal erosion, and sea level rise during extreme weather conditions, making disaster preparedness essential for the community.

2.2 Materials and Instruments

This study utilized two sets of adapted questionnaires that measure environmentally responsible behavior and disaster preparedness among public elementary school teachers. The instrument employs a five-point Likert scale to assess the two variables. According to Amidei *et al.* (2019), Likert scales are frequently used to express agreement or disagreement accurately, representing the subject under study. On a 5-point Likert scale, there are 50 questions in all. The first set of questionnaires is the Environmentally Responsible Behavior Scale (ERBS) developed by Guarano and Andal (2024). This scale measures the environmentally responsible behavior of teachers. It features five indicators and consists of 30 items. It includes five (5) items each for intention to act, locus of control, attitude, and sense of personal responsibility, as well as ten (10) items for knowledge and disaster awareness.

On the other hand, Guarano and Andal (2024) also developed the dependent variable of the adapted questionnaire. The Disaster Preparedness Questionnaire (DPQ) measures teachers' preparedness for disasters. It encompasses four indicators and consists of 20 items, with five (5) items each for assessment and planning, physical and environmental protection, response capacity and development, and practicing, monitoring, and improving. The researcher used this legend to assess the information they acquired through collecting data.

2.3 Design and Procedure

This study utilized a quantitative non-experimental research approach, precisely a descriptive correlation research design, suitable for examining the relationship between environmentally responsible behavior and disaster preparedness among public elementary school teachers. A descriptive correlation research design identifies the direction of the association between two or more variables. It describes the relationship between variables without the researcher altering or modifying them (Bhandari, 2023). Researchers do descriptive correlational research to collect data to explain the variables of interest and determine how they connect. The key goal is to account for all variables and how they connect without altering them or implying that one thing affects another.

The data collection process included obtaining permission to conduct the study. The researchers submitted a letter to the dean of UM Peñaplata College. Afterwards, the researchers submitted a letter to the School Division office in Island Garden City of Samal. After that, the school principals of Tambo, Balet, Libuak, San Isidro, and Tagpopongan received a letter from the researchers requesting permission to conduct this study. Informed consent was obtained from the teachers involved in the study. A consent form clearly explains the purpose of the research, the data collection procedures, the potential risks and benefits, and the confidentiality measures in place. After obtaining the approval, researchers proceeded to conduct the survey right away. The researcher explained a few terms to the respondents so they could complete the questionnaires with an open mind. The researchers asked the respondents to be completely honest. The researchers used face-to-face surveys. Once the respondents had finished the study, the researcher collected and tallied the data and then submitted it to the statistician for analysis. The statistician performed various statistical tests to determine the significance and correlations within the data. Once the analysis was complete, the researchers interpreted the findings and formulated the conclusion and recommendations.

The research team examined and interpreted the data to address the research questions. The following statistical tools were utilized for a more comprehensive interpretation and analysis of the data:

- Mean was used to ascertain the level of environmentally responsible behavior and disaster preparedness among public elementary school teachers.
- Pearson Product-Moment Correlation Coefficient (Pearson-r) was utilized to determine the significant relationship between environmentally responsible behavior and disaster preparedness among public elementary school teachers.
- Multiple Linear Regression Analysis was employed to determine which domain of environmentally responsible behavior best predicts disaster preparedness among public elementary school teachers.

2.4 Ethical Consideration

The researchers ensured that the study was conducted with adherence to ethical standards. It followed protocol and underwent examination. The researchers observed the necessary study processes to ensure ethical considerations were met.

3. Results and Discussion

3.1 Environmentally Responsible Behavior among Public Elementary School Teachers

Table 1 represents the level of environmentally responsible behavior among public elementary school teachers in Babak District. Variable one consists of five indicators: intention to act, locus of control, attitude, sense of personal responsibility, and knowledge and disaster awareness. It has an overall mean (\bar{x} = 4.44, SD = 0.433), which was described as very high; this means that environmentally responsible behavior among public elementary school teachers is always manifested. This implies that teachers consistently demonstrate proactive engagement with environmental practices, emphasizing their role in fostering safer and more resilient school environments.

Table 1: Environmentally Responsible Behavior
among Public Elementary School Teachers (n = 58)

Indicators	\bar{x}	SD
Intention to Act	4.11	0.723
Locus of Control	4.50	0.504
Attitude	4.60	0.503
Sense of Personal Responsibility	4.80	0.366
Knowledge and Disaster Awareness	4.20	0.556
Overall	4.44	0.433

Among all the indicators, the *sense of personal responsibility* has the highest mean score (\bar{x} = 4.80, SD = 0.366), which was described as very high; this means that environmentally responsible behavior is always manifested. On the other hand, *intention to act* has the lowest mean score (\bar{x} = 4.11, SD = 0.723), which was described as high and interpreted as often manifested. Moreover, *attitude* got the mean score (\bar{x} = 4.60, SD = 0.503), followed by *locus of control* with a mean score (\bar{x} = 4.50, SD = 0.504); both were described as very high. This means that environmentally responsible behavior is always manifested. Additionally, *knowledge and disaster awareness* obtained a mean score (\bar{x} = 4.20, SD = 0.556), which is described as high, means that environmentally responsible behavior is often manifested. These results imply that while teachers exhibit strong personal responsibility, attitudes, and knowledge regarding environmental behavior, their lower intention to act suggests a need for more support or motivation to translate these into consistent actions.

Furthermore, it was found from the study that the level of environmentally responsible behavior among public elementary school teachers is very high, which means that such behavior is always manifested. This result correlates with the study of Nishma *et al.* (2023), involving 256 school teachers in Kerala, India, which found that teachers demonstrated a very high level of environmentally responsible behavior when gratitude and perceived social responsibility were fostered, highlighting their role as strong models in promoting pro-environmental behavior. Similarly, Gilal *et al.* (2022) demonstrated that teachers who exhibit strong environmental responsibility positively influence their

students' environmental attitudes through emotional contagion, indicating that teachers must embody environmental values to transmit them effectively to future generations. Additionally, research by Bamberg and Moser (2007) emphasized the importance of intention to act as a key indicator of actual environmental behaviors.

3.2 Disaster Preparedness among Public Elementary School Teachers

Table 2 represents the level of Disaster Preparedness among public elementary school teachers in Babak District. The second variable has four indicators: assessment and planning, physical and environmental protection, response capacity and development, and practicing, monitoring, and improving. Data revealed that the overall mean (\bar{x} = 4.22, SD = 0.514) was very high. This means that disaster preparedness among public elementary school teachers is always manifested. This implies that teachers demonstrate a strong and consistent commitment to disaster preparedness, emphasizing their vital role in ensuring a safe and well-prepared school environment.

Table 2: Disaster Preparedness among Public Elementary School Teachers (n = 58)

Indicators	\bar{x}	SD
Assessment and Planning	4.23	0.594
Physical and Environmental Protection	4.28	0.518
Response Capacity and Development	4.26	0.575
Practicing, Monitoring, and Improving	4.12	0.617
Overall	4.22	0.514

Looking at each indicator, *physical and environmental protection* has the highest mean score (\bar{x} = 4.28, SD = 0.518), which was described as very high or always manifested. Meanwhile, *practicing, monitoring, and improving* has the lowest mean score (\bar{x} = 4.12, SD = 0.617), described as high and, thus, interpreted as often manifested. In addition, *assessment and planning* got a mean score (\bar{x} = 4.23, SD = 0.594), while *response capacity and development* obtained a mean score (\bar{x} = 4.26, SD = 0.575); both were described as very high, meaning disaster preparedness is always manifested. These results suggest that while teachers consistently apply protective and responsive measures in disaster preparedness, continuous reinforcement of practice and improvement processes is needed to ensure holistic and sustained disaster readiness.

Moreover, the result showed that the level of disaster preparedness among public elementary school teachers is very high, which means that disaster preparedness is always manifested. This result aligns with the study of Dwiyanti *et al.* (2022), which found that 86.5% of special school teachers at Cileunyi State SLB, Indonesia, were categorized as "ready" for earthquake disasters, with disaster knowledge identified as the highest parameter, indicating a very high level of disaster preparedness among these teachers. Similarly, a study by Utaya *et al.* (2023) also revealed that elementary school teachers in Malang Regency are well-prepared for disaster, noting that 55% of teachers from four public elementary schools were characterized as vigilant in their approach to handling disasters. Likewise, Ronquillo (2020) stated that teachers prioritize the protection and

readiness of students, showcasing their high commitment to disaster preparedness and risk management.

3.3 Correlation Matrix of the Measures of Environmentally Responsible Behavior and Disaster Preparedness

The correlation analysis in Table 3 examined the relationship between environmentally responsible behavior and disaster preparedness among public elementary school teachers. In this study, the r-value determines the overall significance of the relationship between the two variables. Results revealed that the overall r-value between environmentally responsible behavior and disaster preparedness was .790. Therefore, the researchers found a significant relationship between environmentally responsible behavior and disaster preparedness among public elementary school teachers. The result implies that teachers who consistently exhibit environmentally responsible behavior are better equipped to manage and respond effectively to potential disasters, significantly enhancing their overall preparedness.

Table 3: Correlation Matrix of the Measures of
Environmentally Responsible Behavior and Disaster Preparedness

Environmentally Responsible Behavior	Disaster Preparedness				
	Assessment and Planning	Physical and Environmental Protection	Response Capacity and Development	Practicing, Monitoring, and Improving	Overall
Intention to Act	.539*	.583*	.541*	.486*	.600*
Locus of Control	.657*	.720**	.645*	.613*	.735*
Attitude	.689*	.612*	.549*	.548*	.672*
Sense of Personal Responsibility	.533*	.583*	.401*	.434*	.543*
Knowledge and Disaster Awareness	.577*	.641*	.594*	.575*	.667*
Overall	.731*	.767*	.679*	.653*	.790*

* $p < 0.05$

Furthermore, these findings align closely with the study conducted by Gaurano and Andal (2024), which similarly identified a significant relationship between environmentally responsible behavior and disaster preparedness among public elementary school teachers in the Lucena City Division. The finding further suggests that environmentally responsible behavior is crucial in shaping disaster preparedness, highlighting its influence on resilience and proactive disaster management strategies among teachers. Similarly, another study by Umar *et al.* (2024) focusing on teacher behavior and preparedness for pre-flood disasters in junior high schools found a statistically significant relationship between positive teacher behavior and higher levels of disaster preparedness. This suggests that teachers who exhibited good behavior in terms of environmental responsibility were more likely to be categorized as "very ready" or "ready" for disaster situations. The statistical analysis confirmed the significance of this

relationship ($p=0.002$), reinforcing the link between responsible behavior and preparedness.

3.4 Regression Analysis for Variables Predicting Disaster Preparedness

The data in Table 4 presents the regression analysis for variables predicting disaster preparedness among public elementary school teachers. The F-value of 17.850, which is significant at $p<0.01$, indicates a model fit. Furthermore, the R-squared value of 0.596 implies that 59.6% of the variance in disaster preparedness can be explained by the predictors used in the study, namely, intention to act, locus of control, attitude, sense of personal responsibility, and knowledge and disaster awareness. This further means that the remaining 40.4% of the variance could be attributed to other factors not examined in this study.

Table 4: Regression Analysis for Variables Predicting Disaster Preparedness (n = 58)

Variable	<i>B</i>	<i>SE B</i>	β
Intention to Act	0.106	0.089	0.150
Locus of Control	0.298	0.165	0.293
Attitude	0.197	0.150	0.193
Sense of Personal Responsibility	0.078	0.179	0.056
Knowledge and Disaster Awareness	0.231	0.109	0.250*
<i>R</i> ²	0.596		
<i>F</i>	17.850**		

* $p<0.05$ ** $p<0.01$.

Additionally, Table 4 revealed that knowledge and disaster awareness emerged as the only statistically significant predictors of disaster preparedness ($\beta = 0.250$, $p<0.05$). This suggests that teachers with higher levels of disaster-related knowledge and awareness are more likely to be prepared for disasters. This finding highlights the importance of continuous training and education about disaster risks, preparedness protocols, and emergency responses in the school setting.

Although locus of control ($\beta = 0.293$) and attitude ($\beta = 0.193$) showed moderately strong beta coefficients, their influence was not statistically significant in this model. Similarly, intention to act ($\beta = 0.150$) and sense of personal responsibility ($\beta = 0.056$) did not significantly predict disaster preparedness. While these variables may conceptually relate to preparedness, their lack of statistical significance suggests that knowledge and awareness play a more direct role in shaping actual preparedness behavior.

Moreover, the findings indicate that knowledge and disaster awareness significantly influence disaster preparedness among public elementary school teachers. This finding is consistent with the study by Kawasaki *et al.* (2022), which found that teachers with greater disaster awareness tend to be more concerned and attentive to disaster preparedness, indicating that teachers who are more aware and knowledgeable of disaster risks are more concerned and thus more prepared for disaster situations. Similarly, Fathoni *et al.* (2019) confirmed that knowledge and awareness significantly

predict preparedness levels among teachers, particularly in disaster-prone schools. Furthermore, disaster training programs have significantly improved teachers' knowledge, awareness, and preparedness behaviors, reinforcing the link among these factors (Kawasaki *et al.*, 2022; Salita *et al.*, 2019).

4. Recommendations

The following recommendations are offered based on the findings and conclusions of this study:

Based on the study's findings, it is evident that both environmentally responsible behavior and disaster preparedness are well-embedded among the public elementary school teachers in Babak District. However, gaps remain in consistently translating environmental intentions into action and sustaining practical disaster management activities. As knowledge and disaster awareness emerged as the sole statistically significant predictors of disaster preparedness, strengthening teachers' understanding of hazards and response protocols is essential. To address these areas for growth, targeted recommendations are offered to enhance these crucial aspects further.

For school administrators, it is diplomatically suggested to intensify existing DepEd DRMM initiatives by mandating and adequately funding comprehensive, practical training programs for all teachers, focusing on essential skills like first aid, basic life support, and fire safety, leveraging partnerships with organizations such as the Philippine Red Cross and Lifeline 16911. Furthermore, it is recommended that the systematic post-drill evaluation process be revisited to ensure that feedback consistently leads to the refinement of the school DRMM plans and to intensify the standardization and regular auditing of classroom go-bags and emergency hotlines. To enhance knowledge and disaster awareness, school administrators should intensify mandatory professional development programs tailored to local hazards prevalent in Babak District and revisit the accessibility of centralized, updated DRMM resources, including hazard maps and risk profiles.

Teachers and educators are encouraged to proactively intensify their participation in all available DRMM and environmental education training sessions, viewing them as essential for professional and personal development. They should consistently maintain and regularly review their individual and classroom emergency kits and actively contribute to post-drill evaluations and plan refinements. To bolster knowledge and disaster awareness, teachers are urged to intensify continuous self-learning on local hazards and integrate DRMM and ERB concepts into daily lessons. It is also suggested to revisit the utilization of Learning Action Cells (LACs) as a dedicated platform for peer-to-peer learning on DRMM and ERB, and to intensify their role as key disseminators of safety information to students, parents, and the wider community.

Finally, future researchers are invited to intensify qualitative studies, such as in-depth interviews and focus group discussions, to explore the specific contextual, organizational, and individual barriers hindering teachers' consistent intention to act,

practice, monitor, and improve. It is also recommended that research designs be revisited by implementing longitudinal studies to assess the long-term impact and sustainability of existing DRMM training programs and environmental education initiatives. Furthermore, to deepen the understanding of knowledge and disaster awareness, future research should intensify investigations into which specific knowledge domains and pedagogical approaches most significantly contribute to preparedness and explore the mediating role of school leadership and organizational culture. This continued inquiry will provide insights, ensuring that interventions are highly targeted and sustainable, ultimately contributing to a more resilient and environmentally conscious school community.

5. Conclusion

This study aimed to determine the significant relationship between environmentally responsible behavior and disaster preparedness among public elementary school teachers, and the researchers drew the following conclusions based on the findings of the study:

The level of environmentally responsible behavior among public elementary school teachers is very high. This indicates that environmentally responsible behavior is always manifested. It can be concluded that teachers consistently demonstrate proactive environmental practices in their schools and communities. This implies that teachers exhibit a strong sense of personal responsibility, positive attitudes, and heightened awareness regarding environmental protection and disaster mitigation, making them crucial role models for sustainability.

Similarly, the level of disaster preparedness among public elementary school teachers is also described as very high. This indicates that disaster preparedness is always manifested. This suggests that preparedness measures such as risk assessment, planning, safety drills, and emergency response are consistently practiced. This means that teachers are equipped with the knowledge and skills necessary to respond effectively to disasters, ensuring the safety of students and contributing to a more resilient school environment.

In addition, the findings of this study revealed a significant relationship between environmentally responsible behavior and disaster preparedness among public elementary school teachers. This suggests that teachers who consistently engage in environmentally responsible behavior are more likely to be well-prepared for and effectively manage disasters. Thus, the result implies that fostering environmentally responsible behavior may enhance teacher disaster preparedness, highlighting the potential benefit of integrating environmental responsibility into disaster preparedness strategies.

Furthermore, the regression analysis revealed that knowledge and disaster awareness were the best predictors of disaster preparedness. Therefore, it was concluded that disaster preparedness among public elementary school teachers was best observed through knowledge and awareness of disaster-related concepts and practices. This

suggests that the depth of knowledge that teachers possess significantly impacts their readiness to respond effectively to emergencies and protect their school communities.

This study's findings support the theoretical framework that guided it. The results align with the Theory of Planned Behavior, Social Cognitive Theory, and Community-Based Disaster Risk Management, suggesting that the observed relationships between environmentally responsible behavior and disaster preparedness are consistent with established theoretical perspectives on behavior, learning, and community involvement in disaster contexts.

Acknowledgements

This research's overall success and completion would have been impossible without the Divine Guidance of our Almighty God. The authors also thank UM Peñaplata College Research and Publication Center for supporting this research endeavor, the Division of Island Garden City of Samal, the school administrators and respondents of San Isidro Integrated School, Jose N. Cabunilas Elementary School (Tambo), Balet Elementary School, Tagpopongan Elementary School, and Libuak Elementary School.

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Conflict of Interest Statement

The authors declare no conflicts of interest.

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