Open Access

Contemporary Research Analysis Journal

e-ISSN: 3050-5909
p-ISSN: 3050-5895

Volume 01 Issue 04 October 2024

CrossRef DOI: 10.55677/CRAJ/04-2024-Vol0114

Page no: 125-134

# Disaster Risk Reduction Measures and Disaster Preparedness of Elementary Schools in Babak District

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**ABSTRACT:** The study determines the level of disaster risk reduction measures (DRRM) and disaster preparedness, as well as the significant relationship between the two variables in Cogon, San Antonio, and Toril elementary schools in Babak District. A descriptive-correlational research design was employed in this study. Data analysis involved the use of the weighted average mean and the Pearson Product- Moment Correlation Coefficient. A total of forty-five school heads and teachers respondents were selected through total population sampling. The findings of the study revealed that the levels of disaster risk reduction measures (DRRM) and disaster preparedness in the selected schools are very high, suggesting successful integration and implementation of DRRM strategies. Additionally, a significant relationship was found between the two variables, indicating that increased implementation of disaster risk reduction measures (DRRM) corresponds to higher levels of disaster preparedness in the schools. Consequently, incorporating DRRM into school systems improves the readiness of school heads and teachers for unexpected disasters. The school heads and teachers possess more knowledge and skills to handle disasters, as they are responsible for guiding and protecting students during such events.

**KEY WORDS:** Disaster Risk Reduction Measures, Disaster Preparedness, Teachers and Students

## INTRODUCTION

In the event of a disaster, the school is responsible for guaranteeing the protection of its pupils, particularly those in primary schools who belong to the age group considered vulnerable. Schools should also be able to help pupils become more knowledgeable and prepared for disasters, as they are educational institutions (Pambudi & Ashari, 2019). Moreover, according to Widowati et al. (2021), academic institutions have an obligation to protect children from multiple- hazard disasters. Creating reliable and valid measuring instruments for school safety is critical in reducing the impact of disasters on children's futures at school. Furthermore, the study by Nipa et al. 2020 states that students are one of the most vulnerable groups of people affected by a disaster, suffering both physically and psychologically. Concerns are growing as educational institutions lack adequate emergency plans to prepare students for catastrophe.

Disaster preparedness involves developing interventions to effectively prepare for a catastrophic occurrence, such as establishing policies and plans, providing training and education, and exchanging information to prepare people and communities for a disaster (Bello et al., 2022). To further mitigate the effects of a disaster, preparedness activities include collecting supplies and conducting drills. These activities have been converted into guidelines, checklists, and actions for people to follow to prepare their homes, communities, and schools for a disaster (Bronfman et al., 2019).

In Japanese schools, researchers discovered characteristics that influence disaster preparation, such as study participants' roles (teachers versus parents) and whether they have previously experienced a disaster. In this study, many faculty members were not evacuated, as had been the case in earlier investigations. The schools have on-site power generation, telecommunications, and drinking water, but many realized they were unprepared (Kawasaki et al., 2022). In addition, the study by Utama et al. (2019), entitled Public Preparedness for Facing an Earthquake Disaster in Lempuing Area, revealed that most respondents (66%) need to prepare for disaster. Researchers believe that disaster preparedness should be strengthened to improve community preparedness in the event of calamities.

Another point to consider is that in the study of Nuryana et al. (2023), the disaster preparedness level in Indonesia's six sample regions (East et al.) is often insignificant or nonexistent. Their attitudes and behaviors have yet to follow public awareness about disasters in disaster risk reduction. Furthermore, the relatively regular occurrence of disasters in the six sample regencies of Indonesia, with human losses and property damage, indicates that community preparation remains low (Narayana et al., 2023). Moreover, the local community is also not used to regular disaster occurrences. Administrators should consider this information when designing community-based disaster risk reduction strategies. The community is the primary actor in this strategy for

decreasing disaster risk (Narayana et al., 2023).

Furthermore, localities are affected differently by the same type of disaster, depending on their social vulnerability. One indicator of social vulnerability is preparedness to deal with disasters. A lack of essential education and information relevant to disaster response indicates a low level of societal preparedness (Kermanshachi et al., 2019). While disaster awareness has recently increased, universities and schools still lack disaster preparedness, response, and mitigation strategies (Safapour & Kermanshachi, 2019). Pupils must adequately prepare for school calamities, leading to growing fears due to insufficient emergency preparedness. They experience behavioral, emotional, and bodily suffering during such events (Kruger et al., 2018).

On the other hand, in the United States, only approximately 10% of earthquake- and flood-prone families have implemented cost-effective disaster risk reduction measures. Concentrating on short-term horizons is one of the primary reasons for this inaction: In contrast to the anticipated gains from the measures, the initial expenses of catastrophe risk reduction expenditure are substantial (Kerjan et al., 2012). Furthermore, yearly, different earthquake incidents expose Iran's residential building stock, including developing disaster risk reduction measures (Bastami et al., 2022).

Undoubtedly, disasters are occurring increasingly frequently, making it more difficult for the Asia-Pacific region's highly vulnerable countries to be ready to take action to minimize risks (Yadav & Barve, 2019). According to UNU-EHS and ADW-2014, quoted by Andriesse (2018), the Philippines has the second- highest likelihood of encountering a natural disaster. Building reliable and valid measurement tools for school safety is essential to reducing how disasters impact students' futures at schools. Moreover, the Philippine Disaster Risk Reduction and Management Act of 2010, passed in response to the government's recognition of the need to be more resilient to disasters and prepared, resulted in the establishment of the Disaster Risk Reduction Management Agency known as the NDRRMC or National Disaster Risk Reduction Management Council.

The Sendai Framework for Disaster Risk Reduction 2015–2030 supports the idea of comprehensive school safety, which entails understanding disaster safety for schools, in particular safe school locations and buildings, effective school disaster management, and education to lower disaster risk, disaster loss, and disruption of educational services at the time of a disaster. The Sendai Framework for Disaster Risk Reduction 2015–2030 was approved at the Third UN World Conference in Sendai, Japan, on March 18, 2015). According to research, university students are particularly vulnerable to disasters yet are often overlooked in preparedness efforts. Due to the time students spend in school, they are subject to various risks related to the classroom setting (International Research Institute of Disaster Science, 2015).

In the study of Abenoja et al. (2023), it was stated that as the implementation of disaster risk reduction measures in schools improves, so does disaster preparedness. It implies that schools with higher disaster risk reduction measures are more likely to be disaster-ready. The correlation coefficient of 0.865 suggests a moderately significant positive linear relationship between the variables, indicating that the hypothesis is accepted. As the implementation of disaster risk reduction measures improves, so does disaster preparedness. Moreover, a previous study by Nuryana et al. (2023) entitled Strengthening Society Preparedness as a Strategy for Disaster Risk Reduction in Indonesia shows a *significant relationship between implementing disaster risk reduction (DRR) and providing infrastructure for community preparedness.

The Person-Relative-to-Event Theory by Mulilis and Duval is one significant theory anchoring the study. In a non-disaster simulation, researchers study the applicability of the Person-Relative-to-Event (PrE) theory, which was used initially in disaster-related scenarios. The PrE theory of coping with threats highlights the relationship between the number of evaluated threats compared to personal resources and personal responsibility. Using this hypothesis, researchers have explored the impact of hostile threat appeals on preparedness behavior for earthquakes and tornadoes. The PrE hypothesis anticipates variances in coping behavior based on threat intensity under varied situations of personal responsibility.

Moreover, the Protective Action Decision Model (PADM) by Lindell & Perry (2012) is a critical model perspective that supports the research study. It is a model designed to demonstrate how individuals and organizations make judgments about taking activities to protect themselves from the adverse effects of disasters and environmental risks. According to this model, the process of deciding which protective actions to take begins with an initial input of information, which is obtained from environmental cues, social cues, and various information sources and influenced by factors such as access to and preference for information channels, the availability of warning messages, and specific characteristics of the entity receiving the information.

The independent variable in this study comprises disaster risk reduction measures, as outlined by Bentillo et al. (2022). These measures encompass a range of activities, including mitigation measures, the safety of school records, the safety of pupils and school personnel, information dissemination and advocacy campaigns, policy mechanisms, and organizational structure. Conversely, the dependent variable is disaster preparedness, as delineated by Ozmen (2006). This variable is characterized by different components such as planning, conveniences and equipment, implementation, integration, and culture building.

Disaster risk reduction measures, as indicated, are defined as follows: *mitigation measures* are steps taken to eliminate or reduce the likelihood of future disaster events; *safety of school records* is critical to protect student's and staff's privacy and confidentiality, as well as the integrity of educational data; *safety of pupils and school personnel* is a top responsibility in any academic institution*; information dissemination* is the process of presenting stakeholders with information and *advocacy campaign* is comparable to a political campaign in that the individuals running it must plan it out; they must have

precise strategies, or plans and tools, in mind before taking any action; *policy mechanisms*: policy is a set of ideas or a plan of action—mechanism: a method, technique, or system for accomplishing a goal. The mechanism describes how the activity is carried out. In contrast, a policy is concerned with 'what' has to be done, and *organizational structure* defines how tasks, coordination, and supervision are directed toward attaining organizational goals.

Disaster Preparedness, as indicated, is defined as follows: *planning and* making preparations for something; *conveniences and equipment* are the items required for a specific purpose; *implementation* is the act of carrying out a decision or plan; *integration* is integrating action or process, and *culture building* is ideas and games to promote an organization's values, beliefs, and behaviors.

According to Laude (2019), the Mindanao earthquake destroyed forty schools, and Region XI schools comprised most of those who reported damage. The earthquake minimally damaged the elementary schools in Island Garden City of Samal, particularly Cogon, San Antonio, and Toril. In addition, the post- earthquake visual assessment report conducted by Engr. Matthew III, F. Arig, and Engr. John Kenneth Enumerables has revealed a significant problem in the field. The findings indicate that the existing buildings are currently unsuitable for occupancy, primarily due to the structural integrity issues affecting the floor slabs. Hence, the said report recommends an extensive course of action, including demolishing and replacing floor slabs throughout the entire second floor, replacing damaged beams within a specific classroom, and addressing the issue of damaged walls. Therefore, in this study, researchers want to determine the disaster risk reduction measures and disaster preparedness implemented in the schools mentioned above to ensure the safety of the students, teachers, and staff. The primary goal of this study is to determine the relationship between disaster risk reduction measures and disaster preparedness of selected elementary schools in Island Garden City of Samal. The research attempts to respond to the following questions:

1) What is the level of disaster risk reduction measures of selected elementary schools in Babak District in terms of:
1.1 mitigation measure;
1.2 safety of school records;
1.3 safety of pupils and school personnel;
1.4 information dissemination and advocacy campaign;
1.5 policy mechanisms, and
1.6 Organizational structure?

2) What is the level of disaster preparedness of selected elementary schools in Babak District in terms of:
1.1 planning;
1.2 conveniences and equipment;
1.3 implementation; and
1.4 Integration and culture building?
3) Is there a significant relationship between disaster risk reduction measures and disaster preparedness of selected elementary schools in Babak District?

The significance of this study is crucial in addressing the urgent need for disaster risk reduction measures and disaster preparedness strategies in elementary schools. Teachers must prioritize the safety and well-being of elementary school pupils due to the frequency and severity of natural disasters. This study intends to evaluate primary schools' existing level of readiness, pinpoint their weak points, and suggest practical risk-reduction measures. This study can teach educational policymakers, school administrators, and other key stakeholders the importance of putting comprehensive disaster risk reduction measures into practice by highlighting the gaps and difficulties currently present in disaster preparedness within primary schools.

The results of this study also help create evidence-based guidelines and suggestions for enhancing primary schools' disaster resilience, eventually preserving the lives and futures of young pupils. Additionally, by offering essential insights into the unique context of elementary education, this work advances the more general topic of disaster risk reduction. With the knowledge acquired here, we can better safeguard our youngest and most vulnerable people during disasters through further study and policy development.

## METHODS

In this section, researchers employed the following research methods: research design, research respondents, research instrument, data collection, statistical tools, and ethical considerations.

**Research Respondents.** According to Kawasaki et al. (2022), school disaster preparedness is crucial for students' and staff's safety and well-being. In increasing preparedness, increasing teachers' awareness of disaster prevention is critical. The respondents for this study are the teachers and school heads of Elementary Schools in Babak District. The selected respondents are 45 teachers and school heads from various elementary schools in the Island Garden City of Samal, 18 from Cogon Elementary School, 14 from San Antonio Elementary School, and 13 from Toril Elementary School. Most academics believe that the least acceptable

sample size for a correlational study is 30. Data from a sample of less than 30 people may provide an inaccurate measurement of the degree of connections (Fraenkel & Wallen, 2009, as cited in Putra, 2017 & Kaya, 2021).

Moreover, researchers employ total population sampling to investigate the entire population because the population with the characteristics researchers are interested in can frequently be small. According to Canonizado (2020), total population sampling is a purposive sampling strategy that involves analyzing the entire population with specific features. Hence, the study focused only on the teachers and school heads of Cogon, San Antonio, and Toril Elementary Schools. Therefore, the study does not include the teachers, school heads, and students from the other schools. Moreover, if the criteria are debased, the respondents can withdraw anytime they request to stop participating.

**Materials and Instruments.** The questionnaire is utilized as a research technique to collect data, focusing on responding to the problem's statement. The survey questionnaire that served as the basis for this study has been modified and adapted. The researchers used a Likert scale. According to Amidei et al. (2019), Subjects frequently use Likert scales to express their agreement or disagreement accurately, representing the subject under study. On a 5-point Likert scale, there are 52 questions in all. The questionnaire of disaster risk reduction measures adapted and modified from the study of Bentillo et al. (2022) and has six (6) indicators: mitigation measures with six (6) statements, safety of school records with six (6) statements, safety of pupils and school personnel with five (5) statements, advocacy campaign with six (6) statements, policy mechanisms with four (4) statements, and organizational structure with six (6) statements. On the other hand, disaster preparedness was adapted and modified from the study of Ozmen F. (2006); it consists of four (4) indicators: planning with four (4) statements, conveniences, and equipment with six (6) statements, implementation with four (4) statements, and integration and culture building with five (5) statements. The researchers used this legend to assess the information they acquired through collecting data.

The table below is the scale to determine the disaster risk reduction measures and disaster preparedness level of selected elementary schools in Babak District.

**Analysis and Interpretation of Level of Disaster Risk Reduction Measures**

| Scale | Range of Means | Verbal Description | Interpretation |
|---|---|---|---|
| **5** | 4.21-5.0 | Very High | This indicates that disaster risk reduction measures among respondents are always manifested. |
| **4** | 3.51-4.20 | High | This indicates that the disaster risk reduction measures among respondents are often manifested. |
| **3** | 2.61-3.50 | Moderate | This indicates that the disaster risk reduction measures among respondents are sometimes manifested. |
| **2** | 1.81-2.60 | Low | This indicates that the disaster risk reduction measures among respondents are seldom manifested. |
| **1** | 1.0-1.80 | Very low | This indicates that disaster risk reduction measures among respondents are never manifested. |

**Analysis and Interpretation of Level of Disaster Preparedness**

| Scale | Range of Means | Verbal Description | Interpretation |
|---|---|---|---|
| **5** | 4.21-5.0 | Very High | This indicates that disaster preparedness among respondents is always manifested. |
| **4** | 3.51-4.20 | High | This indicates that disaster preparedness among respondents is often manifested. |
| **3** | 2.61-3.50 | Moderate | This indicates that disaster preparedness among respondents is sometimes manifested. |
| **2** | 1.81-2.60 | Low | This indicates that disaster preparedness among respondents is seldom manifested. |
| **1** | 1.0-1.80 | Very low | This indicates that disaster preparedness is not manifested. |

**Design and**

**Procedure.** The approach used for this investigation was quantitative. To support and meet the goals of the study, the researcher tries to come up with solutions to the problem that has been identified. The researchers used a descriptive-correlational study design. According to Bhat 2023, descriptive correlational research is a research strategy in which the researcher attempts to explain the correlation between one or more variables without making causal or effect claims. It entails gathering and evaluating data on at least two variables to see whether there is a relationship between them. 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.

For permission to carry out the study, the researchers submitted a letter to the dean of UM Peñaplata College. Afterward, the researcher submitted a letter to the School Division office in the Island Garden City of Samal. After that, the school principals of Cogon, San Antonio, and Toril received a letter from the researchers requesting permission to conduct this study. Following approval, researchers conducted the survey right away. The researchers 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 a face-to-face survey. Once the respondents have finished the study, the researchers collect and tabulate the pertinent statistical data. The researchers concluded and made recommendations for this study based on the facts.

The researchers used mean to quantify the level of disaster risk reduction measures and disaster preparedness of selected elementary schools in the Babak District. Moreover, the Pearson Product-Moment Correlation Coefficient was utilized to ascertain the significant relationship between disaster risk reduction measures and disaster preparedness of selected elementary schools in Babak District.

**Ethical Considerations.** This investigation examined ethical questions and considerations before the data was collected. The panel members worked as an ethics review commission and investigated the researchers.

*Voluntary Participation*. The participants could choose not to take part in the study, which was done to preserve their privacy. Information was provided when respondents had questions about the survey or their decision to participate.

*Privacy and Confidentiality*. The study's records are kept private as much as the law allows. Any identifying information gathered for this study was kept confidential unless it was required to safeguard the rights or welfare of the respondents. The researchers reserve the right to withhold the details of their participation from parties unconnected to the study. No private information is used when the study's findings are published or presented at a conference. This study abides by the regulations of the Data Privacy Act of 2012, which was established to safeguard respondents from improper processing of their personal information and reassure them that their responses cannot be traced back. In addition, the names of the respondents did not appear anywhere, and the researchers were the only ones who knew the precise responses that the respondents had given. All the data gathered for this study was kept private and confidential to preserve the respondents' rights.

*Recruitment*. According to this ethical policy, the recruiting parties, particularly the researchers, handled any potential discomforts that the respondents may have felt while taking the survey by confirming their eligibility as recruiting parties and going over the degree of risks and steps to mitigate these risks (including physical, psychological, social, and economic risks).

*Risks*. No high-risk situations, such as community socioeconomic, psychological, or physical health issues, might arise in this study. Participants' rights in the study were preserved and respected.

*Benefits.* The researchers can also provide future researchers, particularly the readers, with generalizable knowledge about the statistical consequences of the disaster risk reduction measures and disaster preparedness of selected primary schools in Babak District. Anyone may gain from the study's conclusions because they provide new insight into its numerical status.

*Safety*. Researchers used pseudonyms to hide their identities throughout the study to ensure the respondents' security. The researchers kept the survey results private and only used them to support the research findings.

*Plagiarism.* The researchers employed turn-it-in software to avoid plagiarism and ensure that their work did not appear to have been submitted as someone else's. When merging ideas from many writers and experts, the researchers carefully adhered to a precise and appropriate reference style. Using the Turnitin and Grammarly tools, this work was verified for grammar and plagiarism. Because this study is based on several past examinations, the researchers ensure that no fiction is made using her works as inspiration. As a result, each item should be discussed in detail and cited. Every single trustworthy journal or other scientific book was consulted for this study.

*Fabrication.* The data is recorded as accurately as is reasonably possible. Therefore, it is illegal to purposefully support false conclusions or create inaccurate data and findings. Nothing has already been published, and the information in the book disagrees.

*Falsification*. When there was no proof that the work had been intentionally altered to meet a model or theoretical premise, falsification was also considered. Any evidence supports no exaggerated or illogical claim.

*Conflict of Interest.* Because the researchers are UM Penaplata College students studying teacher education, there is a conflict of interest. To avoid interrogating administrators and teachers, the researchers purposely ignored the COI. Two core interests, such as the respondents' well-being or the study's validity, are typically not affected by a secondary goal, such as financial or academic advantages or recognitions.

*Deceit*. In the papers for this study, no unethical tactics were used to endanger the respondents' well-being. Every piece of material was examined and verified by the expert group. Additionally, the findings showed that lying would be less harmful to the respondents than beneficial for discouraging it.

*Permission from Organization/Location*. The researchers obtained permission from the schools. The institution or site granted official consent to the researchers to conduct the study or gather the data. The researchers also ensure that the respondents are fully informed of the benefits the school may receive from the study through informed consent by employing a straightforward and basic survey questionnaire. As a result, the respondents gave permission and were aware of the survey being conducted.

*Authorship*. The researchers conducted the study with careful consideration of their qualifications. The researchers significantly improved the concept, design, data collecting, statistical analysis, and data interpretation with the help and direction of the research adviser. The researchers and the advisor contributed to the article's writing, which they then thoroughly intellectually revised. Both made contributions to the investigation that resulted in the study's publication.

## RESULTS AND DISCUSSION

This section presents the results and discussion of the findings. Based on its meaning, the data were assessed using statistical tools. An explanation and analysis of the tables are included in the presentation, offering insight into the importance of the data. An analysis and an implication are provided for every discussion.

### Disaster risk reduction measures

The primary purpose of this study is to determine the level of disaster risk reduction measures in selected elementary schools in the Babak District. After all, the three principals and forty-two teachers had completed answering the survey questionnaire through face-to-face interaction.

Table 1 represents the Disaster Risk Reduction Measures level in selected elementary schools in Babak District. Variable one consists of six indicators: mitigation measures, safety of school records, safety of pupils and school personnel, information dissemination and advocacy campaign, policy mechanisms, and organizational structure. The overall mean ($\bar{x}$= 4.53, SD= 0.39) was very high. This result implies that the disaster risk reduction measures among respondents are always manifested.

Among all the indicators, the mitigation measure has the highest mean score ($\bar{x}$=4.70, SD=.35), and safety and school records got the lowest mean score ($\bar{x}$=4.31, SD= .64), which was described as very high. Safety of pupils and school personnel got the mean score ($\bar{x}$=4.65, SD=.64). The information dissemination

**Table 1. Disaster risk reduction measures of elementary schools**

| **Indicators** | $\bar{x}$ | SD |
|---|---|---|
| Mitigation Measure | 4.70 | .35 |
| Safety of school records | 4.31 | .64 |
| Safety of pupils and school personnel | 4.65 | .38 |
| Information dissemination and advocacy campaign | 4.52 | .45 |
| Policy mechanism | 4.51 | .47 |
| Organizational structure | 4.51 | .54 |
| **Overall** | 4.53 | .39 |

and advocacy campaign, with a mean rating ($\bar{x}$=4.52, SD=.45). While policy mechanisms and the organizational structure received a mean rating that was very high ($\bar{x}$=4.51, SD=.54). It means that the six indicators mentioned above verbally describe strongly agree, which indicates that the respondents always manifest disaster risk reduction measures.

The disaster risk reduction measures of selected elementary schools in Babak District are very high. The study of Canales & Sanico (2021) supports the result, wherein a high implementation level was established by the Balicuatro Area Schools of Northern Samar regarding policy mechanisms, organizational structure, and mitigation measures for ensuring the safety of students and staff, ensuring the safety of school property, and ensuring the safety of school records. Regarding the state of implementation, it was determined that the schools highly integrated disaster risk reduction measures. Furthermore, according to a study, eleven elementary schools in Santiago District have successfully established secure learning facilities while partially meeting the requirements for an enabling environment and school's disaster risk reduction management (Acierto., 2023).

### Disaster Preparedness of Elementary Schools

Table 2 represents the level of Disaster Preparedness in selected elementary schools in Babak District. The second variable has four indicators: Planning, Conveniences and Equipment, Implementation, and Integration and Culture Building. The tabulation's finding indicates that its overall mean ($\bar{x}$=4.37, SD=0.49) shows high disaster preparedness among respondents.

The result showed that, out of all the indicators, planning had the highest mean rating ($\bar{x}$=4.52, SD=.48), and conveniences and equipment got the lowest mean score ($\bar{x}$=4.21, SD=.81); the description identified it as having a very high value. Moreover, the implementation got a mean score ($\bar{x}$=4.45, SD=.60 and the integration and culture building got a mean score ($\bar{x}$=4.32, SD=.50). Overall, there is a verbal description of a very high level for all four indicators of the second variable, which indicates that the respondents always manifest disaster preparedness.

Moreover, the result shows that the disaster preparedness of selected elementary schools in Babak District is very high. Utaya et al. (2023) support the result of the study, stating that elementary school teachers in Malang Regency are well-equipped to handle disasters. The selected teachers from four public

**Table 2. Disaster Preparedness of Elementary Schools**

| **Indicators** | x | SD |
|---|---|---|
| Planning | 4.52 | .48 |
| Conveniences and equipment | 4.21 | .81 |
| Implementation | 4.45 | .60 |
| Integration and culture building | 4.32 | .50 |
| **Overall** | 4.37 | .49 |

elementary schools described 55% of them as vigilant. Torani et al. (2019) state that elementary school teachers must ensure their safety and be accountable for aiding students during a disaster. In addition, the study by Herdiansyah et al. (2020) stated that one hundred eighty students from SDN Tanjung Anom participated in community service through the "Disaster Preparedness Education" program. It also aims to foster cooperation between stakeholders by introducing the students to the possibility and reality of natural disasters and their occurrence. Students will also learn about pre-disaster action, emergency response, and post-disaster procedures.

**Significant Relationship between Disaster Risk Reduction Measures and Disaster Preparedness**

The correlation analysis in Table 3 examined the relationship between disaster risk reduction measures and disaster preparedness. In this study, the r- value determines the overall significance of the disaster risk reduction measures and preparedness. Results revealed that the r-value of the two variables was .549. Therefore, the researchers found a significant relationship between disaster risk reduction measures and disaster preparedness among school heads and teachers. The result implies that schools are more prepared for catastrophic events when disaster risk reduction measures are integrated.

The study found a significant relationship between disaster risk reduction measures and preparedness. The survey by Dela Cruz and Ormilla (2022) revealed that there exists a significant correlation between the degree of disaster preparedness and the implementation of disaster risk reduction measures in Alfonso Lista elementary schools, including safe learning environments and facilities, risk reduction management, and integrating DRRM into the curriculum.

**Table 3. Significant Relationship between Disaster Risk Reduction Measures and Disaster Preparedness**

| **Disaster Risk Reduction Measures** | **Disaster Preparedness** | | | | |
|---|---|---|---|---|---|
| | Planning | Conveniences and Equipment | Implementati on | Integration and Culture Building | **Over all** |
| Mitigation Measure | .646* | .242 | .320* | .314* | **.440*** |
| Safety of school records | .459* | .274* | .060* | .429* | **.357*** |
| Safety of Pupils and School Personnel | .728* | .217* | .237* | .440* | **.457*** |
| Information Dissemination and Advocacy Campaign | .519* | .269* | .141* | .517* | **.417*** |
| Policy Mechanisms | .642* | .339* | .298* | .678* | **.566*** |
| Organizational Structure | .650* | .319* | .183 | .605* | **.506*** |
| **Overall** | **.721*** | **.340*** | **.232** | .613* | **.549*** |

***p<.05 – Significant**

**CONCLUSION**

The study affirms that the selected elementary schools in Babak District successfully implemented disaster risk reduction measures and disaster preparedness. For disaster risk reduction measures, the respondents have thoroughly prepared themselves with mitigation measures, school records safety, pupils and school personnel safety, information dissemination and advocacy

campaigns, policy mechanisms, and organizational structure. Also, for disaster preparedness, the respondents are fully equipped in planning, conveniences and equipment, implementation and integration, and culture building.

In addition, the findings of this study demonstrate a strong relationship between disaster risk reduction measures and disaster preparedness. The more the school implements DRRM, the more prepared it is in times of disaster. Thus, integrating DRMM into schools enhances the readiness of the school heads and teachers for unpredicted disasters. Furthermore, the school heads and teachers need to be knowledgeable and skilled enough to face a disaster, as they are the ones who will guide and protect the students if a disaster happens.

This study confirmed the Person-to-Event Theory by Mulilis, J.P., and Duval, T.S. (1998), wherein a person who has experienced a disaster will have a better understanding and feel high responsibility for preparing for the occurrence of an earthquake. Furthermore, the Protective Action Decision Model (PADM) supports the study in which the schools carried out plans and measurements such as temporary learning spaces (TLS), earthquake drills, seminars, and renovations of the buildings.

## RECOMMENDATIONS

Based on the results mentioned above and data interpretation, the researchers make the following recommendations for selected elementary schools in Babak District:

Since the disaster risk reduction measures are very high, the selected elementary schools in the Babak district should continue implementing the DRRM in their schools. Also, the school administrator and other stakeholders should pay attention and carry out more measurements on securing the school's records, such as providing secure record storage and installing backup copies of essential documents.

Additionally, disaster preparedness in selected schools is very high. Integrating technologies can improve early detection and warning capacities, allowing for proper planning and evacuation. Lastly, teachers may participate more in disaster preparedness programs to equip them with the essential knowledge and skills for rescue plans and rescue teams within the schools.

Future researchers should consider the students, as they are the ones who are vulnerable in times of disaster, and consider more than just the variables mentioned above. As a result, respondents who are not school heads or teachers of elementary schools should conduct additional research on disasters.

## ACKNOWLEDGMENT

We, the researchers, would like to express our earnest gratitude to the individuals mentioned below for their unwavering support and guidance in making this research possible and successful. First, we want to extend our heartfelt appreciation to our loving parents, who are always by our side throughout our journey and have supported us financially and emotionally.

To Janrey Mark Davin, our research adviser, for his advice, unwavering faith, and support of our study. From the beginning, his guidance, effort, and encouragement always motivate us. He instilled immense enthusiasm and conviction that this research would succeed;

To Jovenil Bacatan, our statistician, who provided instruction and support in developing tables and analyzing data for the statistical section of this study;

To Cogon, Toril, and San Antonio Elementary School for allowing us to conduct surveys among their respective school heads and teachers by personal distribution, and to our dearest respondents who willingly participate and for giving their precious time to answer the survey questionnaire, resulting in the completion of this study.

## DEDICATION

We gratefully dedicated our thesis to Almighty God, the ultimate source of wisdom and guidance, acknowledging your unending grace and providence during this journey.

To our beloved parents, their unwavering love, support, sacrifices, and encouragement have been the foundation of our accomplishments.

To our mentors, our appreciation for their invaluable guidance, patience, and wisdom has shaped our academic and personal development. Moreover, to those whose lives and achievements have inspired us to pursue excellence, persevere in the face of challenges, strive hard, and aim to honor their legacy through our contribution to knowledge and society.
Thank you all!

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