

School-Based Disaster Preparedness and Response Measures: Awareness and Assessment

Nova M. Recamadas^a, Rosalinda C. Tantiado^b

^a novarecamadas81@gmail.com, ^brosalinda.tantiado@deped.gov.ph
Southern de Oro Philippines College – Graduate School, Cagayan de Oro City, Philippines

Abstract

The study sought to determine the Level of Awareness in terms of preparedness, mitigation, response, and recovery and the Level of Assessment in terms of preparedness in normal times and preparedness for response measure of School-based Disaster Preparedness and Response Measure and find the significant relationship of the Levels of Awareness and Assessment of the School-based Disaster Preparedness and Response Measure among the one hundred-fourteen (114) teachers who were taken as respondents through purposive universal sampling from Balingasag Central District. The study employed descriptive correlational research design and utilized DO No. 033, s. 2021 checklist and Toyado's (2022) survey questionnaire as instruments of this study. Mean and SD were used to determine the Levels of Awareness and Assessment on School-based Disaster Preparedness and Response Measure and Pearson Product Moment Correlation Coefficient to find the significant relationship between the Levels of Awareness and Assessment. Result revealed that teachers are Highly Aware on their Level of Awareness and Highly Prepared on their Level of Assessment on the School-based Disaster Preparedness and Response Measure and there is a Significant Relationship of their Levels of Awareness and Assessment. Thus, a regular seminar or a quarterly drill is encouraged to be implemented in the school in order to sustain it.

Keywords: DRRM, awareness, assessment, preparedness, mitigation, recovery

1. Introduction

Financial literacy is important because it gives individuals the advantage in carefully and properly managing their financial budget. It is one of the ways for an individual to have the financial capability to withstand from any adverse or unforeseen events. It will help dissipate financial imbalances at home or as individuals. Financial literacy is the capacity to comprehend and use a variety of financial abilities, such as budgeting and personal financial management (Zucchi, 2022).

The Philippines often experiences disasters. Disasters have terrible effects. They result in the loss of infrastructure and other services, the spread of illness and other diseases, the destruction of property and other assets, mass evictions, social upheaval, and environmental harm. The amount of pain endured by the poor in middle-income nations has been disproportionately high.

It carried out the most recent research on School-Based Disaster Risk Reduction Management in the Philippines. It determined the Disaster Risk Reduction Management capacity of the public schools in Polangui, Albay. The result of the study showed that educational institutions lacked safe learning environments, disaster management plans, and risk reduction strategies. (Abejuela et al., 2020).

However, the study of Mamon (2019), ascertained from the opinions of the Senior High School students of Las Piñas that their schools as secured, and buildings were built with resilience during the design and construction phases.

As part of the Pacific Ring of Fire, it is close to several natural disasters, such as earthquakes, tsunamis, volcanic eruptions, flooding, and droughts. The National Agency for Disaster Management reported damaged homes and schools, as well as fatalities, minor injuries, and serious injuries. Building a culture of catastrophe risk reduction and disaster awareness is crucial in the country. The important components of school-based disaster preparedness are planning, providing resources, simulating emergencies, and promoting preparedness among health policymakers. An approach to disaster preparedness based on schools has been effectively applied. The knowledge gained from this program is anticipated to increase future readiness and reduce the loss of life and property due to potentially hazardous events (Pranata et al., 2021).

With the situation, the researcher would like to conduct a study to investigate the teachers' awareness and assessment of the phases for the School-based Disaster Preparedness and Response Measures of the eleven (11) schools of her district. The school's location is near the slope, riverbanks, and irrigation which is unsafe and brings great danger to the life of the teachers, students, and residents every time there is a typhoon, flood, or earthquake.

This study is anchored on DepEd Order No. 033, s. 2021 which is known as the School-Based Disaster Preparedness and Response Measures for the Tropical Cyclone, Flooding, and Other Weather-related Disturbances and Calamities. It is discussed in this order that schools should abide by the preparation of the school before and after any disaster. Enclosure No. 2 is a checklist for school preparedness in Normal Times and Response Measures.

Furthermore, this study also anchored on Toyado's (2022) study in Catanduanes where the island province is vulnerable to all kinds of natural disasters. In his study, Toyado (2022) was able to make a checklist on schools' awareness of the DRRM based on Republic Act (RA) 10121 of 2010. Such a checklist for school DRRM phases also fits the situation of the researcher's district.

2. Methodology

This study used a descriptive correlational research design. It was a descriptive correlational study because it described the variables and the relationships that occur naturally between and among them. Descriptive correlational research designs are used to collect and analyze data. The goal of this design is to get a picture of the current thoughts, feelings, or behaviors in a given group of people.

The descriptive correlational design describes the variables and the relationships that occur naturally between and among them (Asenahabi 2019). It was quantitative research which is most often about quantifying relationships between or among variables the independent or predictor variable and the dependent or outcome variable (Mohajan 2020).

The study's variables were described using a descriptive correlational research design. Descriptive Statistics like Mean, SD, were used. In addition, the Pearson Product Moment Correlation Coefficient was used to determine if there is a significant relationship between Awareness and Assessment on School-Based Disaster Preparedness and Response Measures.

3. Results and Discussion

Problem 1. What is the level of Awareness on School-based Disaster Preparedness and Response Measure as to:

- 1.1 Preparedness;
- 1.2 Mitigation;

1.3 Response; and
 1.4 Recovery?

Table 1

Overall Awareness on School-based Disaster Preparedness and response among teachers

Indicator	Mean	SD	Description	Interpretation
Preparedness	4.10	0.76	Agree	Highly Aware
Mitigation	4.15	0.69	Agree	Highly Aware
Response	4.23	0.71	Strongly Agree	Very Highly Aware
Recovery	4.05	0.69	Agree	Highly Aware
Overall	4.13	0.71	Agree	Highly Aware

Note: 1.00-1.80=Strongly Disagree; 1.81-2.60=Disagree; 2.61-3.40=Uncertain; 3.41-4.20= Agree; 4.21-5.00=Strongly Agree

Table 1 shows the Overall Awareness of School-based Disaster Preparedness and response among teachers. It has an overall Mean of 4.13 with SD = 0.71 which is described as Agree and interpreted as Highly Aware. It means that teachers are fully Aware of the occurrence of disaster and calamities. Using the evaluation tool outlined by the framework which included preparedness, response, recovery, and rehabilitation reported moderate reduction preparedness in the preparation of disaster and risk reduction plan, the organization of risk reduction group, the implementation of the disaster risk reduction measures, on ensuring the safety of DepEd school site and building, and school records in all schools. In order to reduce the danger of a school-based earthquake, efforts are made to improve school-based preparedness that involves students, staff, and residents of the neighborhood as well as several other institutions. It implies that to reduce the danger of a school-based earthquake, efforts are made to improve school-based preparedness that involves students, staff, and residents of the neighborhood as well as a number of other institutions (Gagani et al., 2019).

Moreover, the indicator, Response has the highest Mean of 4.23 with SD = 0.71 which is described as Strongly Agree and interpreted as Very Highly Aware. It means that teachers are Very Aware of the Response. It means that the major challenges associated with disaster response planning are the failure to strictly apply the law, the lack of public and staff education about disaster risks, poor urban planning, unstable security situation, citizen intervention, and endowment of equipment, tools, and infrastructure and lack of financial. When a crisis strikes, family members, friends, and neighbors handle most of the search and rescue efforts as well as the care of the hurt, the traumatized, and the homeless. It implies that to effectively manage an emergency or a disaster in the local government area, or to assist another entity in managing one, a local government must have the capacity to respond to them (Ouyang et al., 2022).

On the other hand, the indicator, Recovery has the lowest Mean of 4.05 with SD=0.69 which is described as Agree and interpreted as Highly Aware. It means that although it has the lowest Mean, teachers are Aware of the Recovery of the disaster or calamities. There may also be additional risks for survivors. They may experience greater risks as post-trauma or mental health diagnoses, and the socially and medically vulnerable. How well people responded to the disasters, in the end, serves as a barometer for the behavioral change brought about through preparedness (Abejuela et al., 2020).

Catastrophe Response emphasizes the activities that take place during the actual disaster response operations, such as needs assessment, search and rescue, relief operations, and early recovery. It implies that recovery also includes restoring housing, transportation, and public services; restarting economic activity; and fostering long-term community redevelopment and improvements. Recovery aimed at restoring or improving livelihoods, health, as well as economic, physical, social, cultural, and environmental assets, systems

and activities, of a disaster-affected community or society, aligning with the principles of sustainable development, including build back better to avoid or reduce future disaster risk (Rouhanizadeh et al., 2020).

In order to address the longer-term needs and issues that make a community vulnerable, rehabilitation and recovery play a crucial role in this preparation. In addition to giving society the chance to become more resilient and lower the likelihood of future emergencies and disasters, these processes also address the needs and issues that make communities vulnerable. Recovery typically starts while disaster response operations are still in progress. The basic objective of the disaster recovery process is to assist communities impacted by a disaster. Well-designed emergency preparedness and response plans can frequently decrease the effects of a disaster, helping not only to preserve lives and property but also to build resilience and aid in the post-disaster recovery process. The Philippine government has created disaster risk reduction and management (DRRM) policies in order to better prepare for, respond to, and recover from natural disasters as well as to be more resilient in the face of them (Iuchi et al., 2019).

Problem 2. What is the level of Assessment on School-Based Disaster Preparedness and Response as to:

- 1.1 Preparedness in Normal Times; and
- 1.2 Preparedness for Response Measures?

Table 2

Overall Assessment of School-based Disaster Preparedness and Response

Table 2 shows the Overall Assessment of School-based Disaster Preparedness and Response among teachers. It has an overall Mean of 4.11 with SD=0.80 which is described as Agree and interpreted as Highly

Indicator	Mean	SD	Description	Interpretation
1. Preparedness in Normal Times	4.21	0.77	Strongly Agree	Very Highly Prepared
2. Preparedness for Response Measure	4.00	0.83	Agree	Highly Prepared
Overall Mean	4.11	0.80	Agree	Highly Prepared

Prepared. It means that teachers are Prepared on what to do before, during and after the occurrence of calamities or disasters. It implies that establishing educational policy in connection with disaster preparedness and putting that into effect at schools at the national, regional, district, and local levels are necessary to address comprehensive school safety. Three pillars represent the overall goals: safe learning environments, school emergency readiness, and training in disaster risk reduction and resilience (Shah et al., 2020). It implies that the promotion of thorough and efficient school safety measures is the declared goal of the plan's parts labeled Safety Education in Schools, Safety Management in Schools, and Promotion of Practical School Safety Measures. Disaster management education for teachers and students has been prioritized, and disaster preparedness at schools has been strengthened nationally (Kawasaki et al., 2020).

Moreover, the indicator, Preparedness in Normal Times has the highest Mean of 4.21 with an SD = 0.77 which is described as Strongly Agree and interpreted as Very Highly Prepared. It means that teachers are Very highly prepared of Preparedness in Normal Times. It implies that Disaster risk reduction preparedness is one of the programs that the Department of Education is promoting (Ner et al., 2022). Using the evaluation tool outlined by the framework which included preparedness, response, recovery, and rehabilitation reported moderate reduction preparedness in the preparation of disaster and risk reduction plan, the organization of risk reduction group, the implementation of the disaster risk reduction measures, on ensuring the safety of DepEd school site and building, and school records in all schools. In order to reduce the danger of a school-based earthquake, efforts are made to improve school-based preparedness that involves students, staff, and residents of the neighborhood as well as several other institutions (Gagani et al., 2019).

On the other hand, the indicator, Preparedness for Response Measure has the lowest Mean of 4.00 with an SD=0.80 which is described as Agree and interpreted as Highly Prepared. It means that teachers are aware of Preparedness for Response Measure. It implies that even if teachers are prepared for the response measure the major challenges associated with disaster response planning are the failure to strictly apply the law, the lack of public and staff education about disaster risks, poor urban planning, unstable security situation, citizen intervention, and endowment of equipment, tools, and infrastructure and lack of financial. When a crisis strikes, family members, friends, and neighbors handle most of the search and rescue efforts as well as the care of the hurt, the traumatized, and the homeless. Depending on the disaster's location, the degree of physical damage to transportation and communications, and the ability of official organizations to respond, it can take many hours or even days for professional emergency teams to arrive (Mamon 2019).

Problem 3. Is there a significant relationship between the level of Awareness and Assessment on School-Based Disaster Preparedness and Response Measure?

Table 9

Relationship of School-based Disaster Preparedness and Response Awareness and Assessment

Table 9 presents the significant relationship between the Awareness and Assessment of School-based

School-based Disaster Preparedness and Response		r value	P value	Remarks	Decision	Interpretation
Awareness	Assessment					
Preparedness	*Preparedness in Normal Times	0.59	0.03	Moderate uphill positive correlation	Reject Null Hypothesis	Significant Relationship
Mitigation	*Preparedness for Response Measures	0.65	0.02	Moderate uphill positive correlation	Reject Null Hypothesis	Significant Relationship
Response		0.69	0.04	Moderate uphill positive correlation	Reject Null Hypothesis	Significant Relationship
Recovery		0.63	0.01	Moderate uphill positive correlation	Reject Null Hypothesis	Significant Relationship
Overall Mean		0.64	0.025	Moderate positive correlation	Reject Null Hypothesis	Significant Relationship

Disaster Preparedness and Response Measure. The table took Pearson's Correlation analysis at the level of the Independent Variable by looking at the r values of the variables; preparedness, mitigation, response, and recovery the test revealed a moderate uphill positive correlation for all 4 independent variables. Also, in computing their p values holding the dependent variable constant at a time. As can be gleaned from the same table, the awareness of the school with $p < 0.05$ is significant. Preparedness (p value = 0.03), mitigation (p value = 0.02), response (p value = 0.04) and recovery (p value = 0.01) of the school has a significant effect on preparedness in normal times and preparedness for response measures. This means that teachers level of Awareness on School-based Disaster Preparedness and Response Measure is associated with the level of Assessment on School-Based Disaster Preparedness and Response. Since teachers are aware of the necessary preparation, mitigation, response and recovery, their level of assessment in the DepEd Order 031, s. 2021

checklist is high. This implies that whatever calamity that may occur in the district where this study was conducted, the teachers, the learners and the school in general are prepared and they all know what to do before, during and after a calamity may occur. In summary, the correlation analysis yielded that the hypothesis test was rejected. Taking it in the coefficient level, the independent variable school-based disaster preparedness and response, is a good preparedness in normal times and preparedness for response measures with a p value far lesser than 0.05. With the following findings, a positive linear relationship exists between the variables.

4. Conclusions and Recommendations

Considering the above-cited findings, the following are drawn from the study.

1. The level of Awareness on School-Based Disaster Preparedness and Response among Teachers. The teachers are Highly Aware. Teachers are fully Aware of the occurrence of disaster and calamities. Using the evaluation tool outlined by the framework which included preparedness, response, recovery, and rehabilitation reported moderate reduction preparedness in the preparation of disaster and risk reduction plan, the organization of risk reduction group, the implementation of the disaster risk reduction measures, on ensuring the safety of DepEd school site and building, and school records in all schools. To reduce the danger of a school-based earthquake, efforts are made to improve school-based Awareness that involves students, staff, and residents of the neighborhood as well as a number of other institutions. It reduces the danger of a school-based earthquake, efforts are made to improve school-based preparedness that involves students, staff, and residents of the neighborhood and other institutions.

2. The level of Assessment on School-Based Disaster Preparedness and Response among Teachers in terms of Preparedness in Normal Times and Response Measures is Highly Prepared. The teachers are Prepared on what to do before, during, and after the occurrence of calamities or disasters. It implies that establishing educational policy in connection with disaster preparedness and putting that into effect at schools at the national, regional, district, and local levels are necessary to address comprehensive school safety. Three pillars represent the overall goals: safe learning environments, school emergency readiness, and training in disaster risk reduction and resilience. The promotion of thorough and efficient school safety measures is the declared goal of the plan's parts labeled Safety Education in Schools, Safety Management in Schools, and Promotion of Practical School Safety Measures. Disaster management education for teachers and students has been prioritized, and disaster preparedness at schools has been strengthened nationally.

3. The coefficient level of Awareness and Assessment of School-Based Disaster Preparedness and Response is significant. If teachers are aware, it means that they are also prepared before, during, and after the occurrence of a calamity.

For recommendations:

1. Recovery is a long process; it does not happen overnight. A government agency may check the mental health/ mental capacity of a survivor is a must, like those who need counseling to all survivors is also important. The government may provide necessities like food, water, and shelter and may restore basic services and facilities for the functioning of a community, or a society affected by the disaster. This is necessary so that a survivor from a certain place may go back to its basic function and do the most important thing. Everyone may take the first step to move to recovery.

2. The government may prioritize and give enough allocation and budget for Disaster Response Organizations (DROs) for their advanced equipment in technology such as communication and coordination to respond immediately to the survivors, those that are affected greatly by calamity, and those that need help and assistance immediately. With the advanced use of technology, loss of lives may be prevented. The government may pass a law mandating compulsory training, seminars, and workshops for students, teachers,

and parents so that everyone could respond immediately and help those in need in times of emergency and save lives.

3. The school and province may be included will have the preparedness in new normal time and during disaster response if they are fully aware of what to do. If they are aware for preparation, mitigation, response, and recovery. The school headed by the School DRRM coordinator may invite the Provincial DRRM to deliver symposia for awareness and preparation to lessen casualties whenever a disaster may occur.

4. It is essential to conduct Awareness and Assessment to all teachers, parents', and students about Disaster Preparedness. The Local Government Unit and teachers may collaborate to hold training, seminars, and workshops on Awareness of Disaster Preparedness. This will provide comprehensive learning, and understanding on what to do before, during and after the occurrence of disaster or calamities to lessen the damage and loss of lives.

REFERENCES

- Abejuela, H. J. M., Ejem, L. A., & del Rosario, A. S. C. (2020). Disaster Risk Reduction and Management Mechanisms for School-Aged Children in Flood and Landslide Vulnerable Areas in the Province of Bukidnon. *Asia Pacific Journal of Social and Behavioral Sciences*.
- Amri, A. (2022). Building disaster resilient households through a school-based education intervention with children and their families (Doctoral dissertation, Macquarie University).
- Arciaga, M. R. (2022). Reconfiguration Of Disaster Risk Reduction Management in Public Schools.
- Asenahabi, B. M. (2019). Basics of research design: A guide to selecting appropriate research design. *International Journal of Contemporary Applied Researches*.
- Brundiars, K. (2018). Educating for post-disaster sustainability efforts. *International journal of disaster risk reduction*.
- Cantillo, V., Macea, L. F., & Jaller, M. (2019). Assessing vulnerability of transportation networks for disaster response operations. *Networks and Spatial Economics*.
- Chisty, M. A., Muhtasim, M., Biva, F. J., Dola, S. E. A., & Khan, N. A. (2022). Sendai Framework for Disaster Risk Reduction (SFDRR) and disaster management policies in Bangladesh: How far we have come to make communities resilient? *International Journal of Disaster Risk Reduction*.
- Das, R. (2018). Disaster preparedness for better response: Logistics perspectives. *International journal of disaster risk reduction*.
- DepEd Order No. 21, s. 2015 Disaster Risk Reduction and Management Coordination and Information Management Protocol
- DepEd Order No. 33, s. 2021 School-Based Disaster Preparedness and Response Measures for Tropical Cyclones, Flooding, and Other Weather-Related Disturbances and Calamities.
- DepEd Order No. 55, s. 2007 Prioritizing the Mainstreaming of Disaster Risk Reduction Management in the School System and Implementation of Programs and projects Relative Therefore
- DepEd Order (DO) No. 83 s. 2011 titled Disaster Preparedness Measures for School
- de Rivera, L. P. (2021). Precarious places, precarious knowledges (Doctoral dissertation, The University of Sydney).
- Drew-Smythe, J. J., Davila, Y. C., McLean, C. M., Hingee, M. C., Murray, M. L., Webb, J. K., ... & Murray, B. R. (2023). Community perceptions of ecosystem services and disservices linked to urban tree plantings. *Urban Forestry & Urban Greening*.
- Fadilah, M., Maryani, E., Permanasari, A., & Riandi, R. (2021, March). Disaster-vulnerable community perception related to pre-earthquake natural phenomena in west sumatera as part of disaster preparedness. In *IOP Conference Series: Earth and Environmental Science* (Vol. 683, No. 1, p. 012075). IOP Publishing.

- Gagani, R. F. M., & Montalban, R. (2019). Disaster and Risk Reduction Preparedness Evaluation of the 6th District schools of Lapu-Lapu City. *American Journal of Humanities and Social Sciences Research*.
- Ghasemi, P., & Khalili-Damghani, K. (2021). A robust simulation-optimization approach for pre-disaster multi-period location-allocation-inventory planning. *Mathematics and computers in simulation*.
- Gilbertson, K., Ewert, A., Siklander, P., & Bates, T. (2022). *Outdoor education: Methods and strategies*. Human Kinetics.
- Hofmann, S. Z. (2022). *Build Back Better and Long-Term Housing Recovery: Assessing Community Housing Resilience and the Role of Insurance Post Disaster*. Sustainability.
- Hoffmann, R., & Blecha, D. (2020). Education and disaster vulnerability in Southeast Asia: Evidence and policy implications. *Sustainability*.
- Hosseini, K. A., & Izadkhah, Y. O. (2020). From “Earthquake and safety” school drills to “safe school-resilient communities”: A continuous attempt for promoting community-based disaster risk management in Iran. *International journal of disaster risk reduction*.
- Iuchi, K., Jibiki, Y., Solidum Jr, R., & Santiago, R. (2019). Natural hazards governance in the Philippines. In *Oxford Research Encyclopedia of Natural Hazard Science*.
- Javier, S. P., & Diliman, Q. C. (2019). Risk Reduction Through Disaster Literacy Among School-Age Children in a Vulnerable Community: The Case of Barangay Parian, Calamba City.
- Jovita, H. D., Nurmandi, A., Mutiarin, D., & Purnomo, E. P. (2018). Why does network governance fail in managing post-disaster conditions in the Philippines? *Jambá: Journal of Disaster Risk Studies*.
- Kamil, P. A., Utaya, S., & Utomo, D. H. (2020). Strengthen disaster preparedness for effective response on young people through geography education: A case study at school in the tsunami affected area of Banda Aceh City, Indonesia. In *IOP Conference Series: Earth and Environmental Science* (Vol. 412, No. 1, p. 012016). IOP Publishing.
- Kawasaki, H., Yamasaki, S., Rahman, M. M., Murata, Y., Iwasa, M., & Teramoto, C. (2020). Teachers-parents cooperation in disaster preparation when schools become as evacuation centers. *International journal of disaster risk reduction*.
- Kawasaki, H., Yamasaki, S., Yamakido, M., & Murata, Y. (2022). Introductory disaster training for aspiring teachers: A pilot study. *Sustainability*.
- Kimani, M. N. (2020). A tool for mapping and monitoring landslides emergency management and disaster response: case study Murang’a County (Doctoral dissertation, Strathmore University).
- Makwana, N. (2019). Disaster and its impact on mental health: A narrative review. *Journal of family medicine and primary care*.
- Mamon, M. A. C. (2019). Application of Problem-based Learning Approach in Senior High School on Community-based Hazard Identification and Assessment. *The Normal Lights*.
- Manaf, M., Muhibuddin, A., Suriandjo, H. S., Muspida, A., Widodo, S., & Abdulbar, F. (2022, November). Mitigation and public coordination for Flood Disaster Risk Reduction (FDRR) in the implementation of North Luwu sustainable development. In *IOP Conference Series: Earth and Environmental Science* (Vol. 1109, No. 1, p. 012018). IOP Publishing.
- McEntire, D. A. (2021). *Disaster response and recovery: strategies and tactics for resilience*. John Wiley & Sons.
- Mohajan, H. K. (2020). Quantitative research: A successful investigation in natural and social sciences. *Journal of Economic Development, Environment and People*.
- Mostajabdaveh, M., Gutjahr, W. J., & Sibel Salman, F. (2019). Inequity-averse shelter location for disaster preparedness. *IISE Transactions*.
- Ner, N. T., Okyere, S. A., Abunyewah, M., & Kita, M. (2022). Integrating resilience attributes into local disaster management plans in Metro Manila: strengths, weaknesses, and gaps. *Progress in Disaster Science*.
- Oktari, R. S., Munadi, K., Idroes, R., & Sofyan, H. (2020). Knowledge management practices in disaster

- management: Systematic review. *International Journal of Disaster Risk Reduction*.
- Ouyang, J., Li, S., Zhou, Y., Zhang, Y., & Wu, R. (2022). Evaluation Algorithm of Disaster Response Capability of Intelligent Distribution Network Based on Fuzzy Comprehensive Evaluation. *Mathematical Problems in Engineering*, 2022.
- Oven, K., & Bankoff, G. (2020). The neglected country (side): Earthquake risk perceptions and disaster risk reduction in post-Soviet rural Kazakhstan. *Journal of Rural Studies*.
- Pamungkas, D. R. (2020). The Awareness and Knowledge of Post-Disaster Emotional Responses in Adult Community Members and Nurses in Yogyakarta, Indonesia (Doctoral dissertation).
- Pillai, A. S., Chandraprasad, G. S., Khwaja, A. S., & Anpalagan, A. (2021). A service oriented IoT architecture for disaster preparedness and forecasting system. *Internet of Things*.
- Pramono, J., Kusumastuti, D., Sekarwangi, M., & Choerudin, A. (2020). The Community Participation in Disaster Mitigation to Managing the Impact of Natural Disasters in Indonesia. *Journal of Talent Development and Excellence*.
- Pranata, S., Widodo, S., Vranada, A., & Mariyam, M. (2021, January). How to a school-based disaster preparedness in Indonesia. In *4th International Conference on Sustainable Innovation 2020–Health Science and Nursing (ICoSIHSN 2020)* Atlantis Press.
- Rahmat, H. K., Widana, I. D. K. K., Basri, A. S. H., & Musyirifin, Z. (2021). Analysis of potential disaster in the new capital of Indonesia and its mitigation efforts: A qualitative approach. *Disaster Advances*.
- Republic Act (RA) No. 10121, also known as the "Philippine Disaster Risk Reduction and Management Act of 2010 (PDRRM-2010), was passed on May 27, 2010.
- Republic Act No. 10173 Data Privacy Act of 2012 is an Act Protecting Individual Personal Information and Communications System in the Government and the private sector, creating for this purpose a National Privacy Commission and for other purposes.
- Rogayan, D., Cuarto, R. M. D., & Ocsan, M. L. A. (2022). Are ninth-grade students aware and prepared when disaster strikes? *Journal of Science and Education (JSE)*.
- Ronquillo, R. B. (2018) Teachers' Preparedness on Disaster Risk Reduction and Management Measures among Public Senior High Schools in the Division of Batangas City.
- Rouhanizadeh, B., Kermanshachi, S., & Nipa, T. J. (2020). Exploratory analysis of barriers to effective post-disaster recovery. *International Journal of Disaster Risk Reduction*.
- Salita, C., Tiongco, R. E., & Kawano, R. (2021). Assessment of schoolteachers' disaster preparedness using the extended parallel process model: a cross-sectional study in Angeles City, Philippines. *Journal of Public Health*.
- Sari, A. L. (2019). School in Earthquake Threat: School Based Disaster Preparedness Model in Indonesia.
- Shah, A. A., Gong, Z., Pal, I., Sun, R., Ullah, W., & Wani, G. F. (2020). Disaster risk management insight on school emergency preparedness—a case study of Khyber Pakhtunkhwa, Pakistan. *International Journal of Disaster Risk Reduction*.
- Shah, A. A., Shaw, R., Ye, J., Abid, M., Amir, S. M., Pervez, A. K., & Naz, S. (2019). Current capacities, preparedness and needs of local institutions in dealing with disaster risk reduction in Khyber Pakhtunkhwa, Pakistan. *International journal of disaster risk reduction*.
- Stute, M., Maass, M., Schons, T., Kaufhold, M. A., Reuter, C., & Hollick, M. (2020). Empirical insights for designing information and communication technology for international disaster response. *International journal of disaster risk reduction*.
- Srividhya, K., Mohan, A., Tholkapiyan, M., & Arunraj, A. (2020). Earthquake disaster mitigation (EQDM) through engineering design. *Materials Today: Proceedings*.
- Tabilon-Tizon, R., & Comighud, S. M. T. (2020). Implementation of the Public Schools' Disaster Risk Reduction Management Program and Level of Capabilities to Respond. UBT Knowledge Center.
- Tizon, R. T., & Comighud, S. M. T. (2020). Implementation of the Public Schools' Disaster Risk Reduction Management Program and Level of Capabilities to Respond.

- Toledo, R. J. T., Tantoy, O. A., & Paraiso, R. M. (2020). Development of Disaster Risk Management and Mitigation Extension Program for School-Aged Children in the Province of Bukidnon. *Asia Pacific Journal of Social and Behavioral Sciences* Volume, 18, 62.
- Toyado, D. M. (2022). Awareness of Disaster Risk Reduction (DRR) among Student of the Catanduanes State University. Available at SSRN 4109711.
- Tsioulou, A., Faure Walker, J., Lo, D. S., & Yore, R. (2021). A method for determining the suitability of schools as evacuation shelters and aid distribution hubs following disasters: case study from Cagayan de Oro, Philippines. *Natural Hazards*.
- Wang, J. J., & Tsai, N. Y. (2022). Factors affecting elementary and junior high school teachers' behavioral intentions to school disaster preparedness based on the theory of planned behavior. *International Journal of Disaster Risk Reduction*.
- Wijkman, A., & Timberlake, L. (2021). *Natural disasters: acts of God or acts of man?* Routledge.
- Yadav, D. K., & Barve, A. (2019). Prioritization of cyclone preparedness activities in humanitarian supply chains using fuzzy analytical network process. *Natural Hazards*.
- Yan, T. (2022). *Self-Care and Individual Disaster Preparedness* (Doctoral dissertation, State University of New York).