



MEASURING SCHOOL DISASTER RISK REDUCTION MANAGEMENT CAPACITY OF PUBLIC SCHOOL IN VICTORIA LAGUNA

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ABSTRACT

The study was conducted to show the measurement of school disaster risk reduction management capacity of public schools in Victoria, Laguna.

This study used the descriptive research design. Descriptive method was used to measure the school risk reduction management capacity in relation to the disaster preparedness of public schools in the district of Victoria, Laguna.

This study aimed to show the measurement of disaster risk reduction management of school towards the school hazards. What is/are the related disaster preparedness devising by the school? What is the mean level of school disaster risk reduction management capacity of school? Is there a significant relationship between the school preparedness and disaster risk reduction management capacity in public schools in Victoria, Laguna?

Purposive sampling method was used based on the standards given by the researcher. There were 17 school heads and 17 DRRM coordinators with the total of 34 respondents of the study.

Statistical treatment was used to analyze and interpret the data given by the respondents. The weighted mean and standard deviation were used to determine the school disaster risk reduction preparedness in terms of infrastructure and facilities, disaster risk reduction activities, disaster risk reduction education, psychological support provision and stakeholders' coordination and networking and the school disaster risk reduction management capacity in terms of disaster preparedness, disaster response and disaster mitigation. The Pearson correlation coefficient was employed to determine the significant relationship between the school disaster risk reduction preparedness and disaster risk reduction management capacity.

Based on the findings of the study, it showed that there was a significant relationship between the school preparedness and disaster risk reduction management capacity in public schools in Victoria, Laguna.

Based on the conclusion formulated from the findings, it is therefore recommended that: 1.) School heads together with the DRRM coordinators may consider having a customize school disaster preparedness plan base on the result of hazard assessment. 2.) Schools may include Disaster Risk Reduction Management plans in the school learning continuity plan or BELCP to be part of the annual improvement plan (AIP) and school improvement plan (SIP) to have proper funding for DRRM. 3.) Consider conducting or designing a customize capacity team building for DRRM Coordinators and teachers depending on the need of the schools. 4.) It is recommended to think about to conduct a school-based or classroom-based research on the needs of Disaster Risk Reduction Management.

KEYWORDS: *disaster preparedness; disaster management*

1. INTRODUCTION

One of the most vital human right, universal and inalienable is education. To reach people full potential it is important to exercise their rights. Disasters and emergencies are important factors to disturb and suspend the practice of this right. There are times that education is interrupted or limited due to disasters, students leave the school for a time and worse is dropping out, resulting to socio-economic negative impact on students, their families, the school and to the whole community.

It is undeniably that no one is exempted or able to prevent such phenomenon. However, through

planning and assessment a complete avoidance of potential adverse impacts can be action taken in advance. Being a universal institution one of the functions of the school is imparting knowledge and skills that is why the schools are expected to be role models in disaster prevention.

Currently, the global community is going through an increasing number of disasters whether natural or man-made which may result in unwanted loss and damage of life and property. The Philippines is not an exemption that has suffered from inexhaustible number of disasters which spurred the Department of Education (DepEd) authorities to



design a framework. Through the issuance of a policy enclosed Comprehensive Disaster Risk Reduction Management (DRRM) in Basic Education Framework (D.O 37 s 2015), the framework is expected to guide schools in assessing, planning and implementing their specific prevention and mitigation, preparedness, response and recovery and rehabilitation interventions in support of the national, regional and divisions directions (RA 9155: Basic Education Governance Act of 2001) that mandates the school to established DRRM policies and programs.

The above discussions stimulate the researcher to conduct this study to measure the capacity of risk reduction and disaster preparedness program among the public secondary schools in Victoria District, Province of Laguna. The researcher is hopeful that the findings of this study can form the basis of an action to enhance or improve school disaster risk reduction management programs and activities.

2. RESULTS AND DISCUSSION

Related Disaster Preparedness Devising by the School

School disaster risk reduction preparedness was described in terms of infrastructure and facilities, disaster risk reduction activities, disaster risk

reduction education, psychological support provision and stakeholders' coordination and networking and was determined by the mean and standard deviation.

The result below shows that in terms of infrastructure and facilities, the disaster risk reduction preparedness of the school was *very high* shown by the grand (M=4.54). This means that the school has provided infrastructures and facilities in preparation to disasters that may arise.

It was shown that the respondents perceived that provision of bell and fire alarms and emergency number in strategic locations was *always* provided supported by the obtained highest (M=4.68, SD=0.58). This indicated that the school always provides emergency alarms and contact information visible. However, availability of Temporary Learning Space (TLS) was *often* identified bearing the lowest (M= 4.09, SD=0.66). This meant that the schools provide learning space to be used in times of disasters.

Same result was found in the research made by Kapur (2018) that the members of the educational institutions need to ensure that they bring about improvements in infrastructural facilities on a continuous basis. With advancements taking place and with the advent of modern and innovative methods, it is necessary to promote infrastructure development in educational institutions.

Table 1. Related Disaster Preparedness in terms of Infrastructure and Facilities

STATEMENT	Mean	SD	Remarks
1.Regular inspection and maintenance of school facilities	4.62	0.59	Always
2. Maintain safe drinking water within the school	4.56	0.81	Always
3. Facilitate the assessment of school electrical system	4.59	0.60	Always
4. Identify facilities to be used by displaced person in case the school will be used as evacuation center	4.62	0.73	Always
5. Identify availability of Temporary Learning Space (TLS)	4.09	0.66	Often
6. Provision of bell and fire alarms and emergency number in strategic locations	4.68	0.58	Always
7. Availability of safety signage and DRR corners	4.65	0.68	Always
Grand Mean	4.54		Always
Interpretation	Very High		

Table 2 reveals that in terms of disaster risk reduction activities, the disaster risk reduction preparedness of the school was *very high* supported by the grand (M=4.31). This means that that the school has conducts activities in connection to disaster risk reduction.

It can be gleaned that the respondents perceived that integration of DRRM to school improvement plan and designation of DRRM teams with distinct functions was *always* provided supported by the gained highest (M=4.65, SD=0.54).

This indicated that designating DRRM team as part of the school improvement plan was given priority. However, *often* conduct home visitation to provide student tracking strategies and family reunification protocols activities which both obtained the lowest (M= 3.38, SD=0.87; 0.90). This meant that the conduct activities like home visitation and family reunification were not done at times.

In the study of Kitagawa, Kaori (2021) the foci of the studies of disaster risk reduction activities have been what people should learn, rather than how



people learn. Engagement with learning perspectives and theories will allow conceptualizing how people

learn to be prepared and resilient, which will benefit disaster risk management.

Table 2. Related Disaster Preparedness in terms of Disaster Risk Reduction Activities

STATEMENT	Mean	SD	Remarks
1. Conduct of school hazard assessment	4.50	0.70	Always
2. Integration of DRRM to school improvement plan	4.65	0.54	Always
3. Designate a DRRM teams with distinct functions.	4.65	0.54	Always
3. Provision of emergency survival equipment's, tools, and kits	4.32	0.63	Always
4. Conduct community hazards drills and evacuation protocols	4.21	0.68	Always
5. Response capacity development trainings	4.41	0.81	Always
6. Conduct home visitation to provide student tracking strategies	3.38	0.87	Sometimes
7. Conduct family reunification protocols activities	3.38	0.90	Sometimes
Grand Mean	4.31		Always
Interpretation	Very High		

Table 3 shows that in terms of disaster risk reduction education, the school was *very high* prepared shown by the grand (M=4.25). This implies that the school ensures that knowledge and information on disaster risk reduction were disseminated to students through various means.

It was presented that the school always ensure immediate class resumption after the disaster supported by the gained highest (M=4.38, SD=0.77).

This indicated that the school make sure that they carry on with classes after a disaster had happened. However, the conduct modular/online approach of teaching for students directly affected by the disaster and availability of student peer monitoring program was *often* manifested supported by the lowest (M= 4.09, SD=0.89; 0.82). This indicates that the schools educate the students on disaster risk reduction with the aid of peer monitoring and distance learning.

Table 3. Related Disaster Preparedness in terms of Disaster Risk Reduction Education

STATEMENT	Mean	SD	Remarks
1. Integrate DRRR in subject taught	4.35	0.68	Always
2. Conduct DRRR co-curricular activities like, Symposium, Exhibits, Workshops, Trainings	4.21	0.68	Always
3. Availability if DRRM learning materials and IEC's in LRMDS	4.35	0.68	Always
4. Conduct modular/online approach of teaching for students directly affected by the disaster	4.09	0.89	Often
5. Ensure immediate class resumption after the disaster	4.38	0.77	Always
6. Availability of student peer monitoring program	4.09	0.82	Often
Grand Mean	4.25		Always
Interpretation	Very High		

As presented on the table above, in terms of psychological support provision, the disaster risk reduction preparedness of the school was *high*, with the grand (M=4.02). This means that that the schools also provided support in times of disasters in terms of psychological aspect.

It was evident that coordination with other local agencies with capability of giving psychological support services was *often* implemented with the

obtained highest (M=4.09, SD=0.82). This indicated that psychological assistance was given in coordination with other local agencies most of the time. Similarly, monitoring of the development of the result of the psychological intervention program bearing the lowest (M= 3.97, SD=0.75) was *often* done. This further implied that the schools coordinate with other local agencies with capability of giving psychological support services.



Table 4. Related Disaster Preparedness in terms of Psychological Support Provision

STATEMENT	Mean	SD	Remarks
1.Ensure availability of trained teachers and personnel to provide psychological services	4.06	0.80	Often
2. Availability of post disaster psychological intervention programs	4.06	0.76	Often
3. Conduct psychological intervention activities for students, teachers, and school personnel, Pre-Disaster Counselling, Post Disaster Counselling, Stress Debriefing Activities	4.00	0.80	Often
4. Identify student's needing psychological program through student tracking system	4.00	0.77	Often
5. Coordinate with other local agencies with capability of giving psychological support services	4.09	0.82	Often
6. Monitoring of the development of the result of the psychological intervention program	3.97	0.75	Often
7. Evaluating the result of the program	4.00	0.77	Often
Grand Mean	4.02		Often
Interpretation	High		

The result above reveals that in terms of stakeholder coordination and networking, the disaster risk reduction preparedness of the school was *high* shown by the grand (M=4.32). It implies that the school should be consistent and encourage active involvement of the parents and the community and build strong partnerships and linkages with the local or city government, emergency offices and Disaster Risk Reduction and Management Council.

It was shown that the respondents perceived

that cooperating with district disaster management with relevant stakeholders in the area was *always* provided supported by the obtained highest (M=4.62, SD=0.54). This indicated that the school have an understanding and collective commitment with the Local Government Unit and stakeholders. Similarly, identification of parent volunteers bearing the lowest (M= 4.21, SD=0.76) was *always* done. This meant that the schools identified those parents who volunteer themselves in case of emergency.

Table 5. Related Disaster Preparedness in terms of Stakeholders Coordination and Networking

STATEMENT	Mean	SD	Interpretation
1.Cooperate with district disaster management with relevant stakeholders in the area	4.62	0.54	Always
2. Understanding and collective commitment among school elements and other stakeholders	4.44	0.60	Always
3. Availability of stakeholders in response with the different program	4.32	0.58	Always
4. Identification of parent volunteers	4.21	0.76	Always
5. Update contact information of partners and stakeholders	4.32	0.79	Always
Grand Mean	4.32		Always
Interpretation	High		

LEVEL OF SCHOOL DISASTER RISK REDUCTION MANAGEMENT CAPACITY

School disaster risk reduction management capacity was composed in terms of disaster preparedness, disaster response and disaster mitigation and was determined by the mean and standard deviation.

As shown in table 6, in terms of disaster preparedness, the level of school disaster risk

reduction management capacity was *very high* shown by the grand (M=4.28). This means that the school has provided strategic planning and preparation to disasters that may come.

It was indicated that the respondents perceived that identifying places which serve as evacuation centers was *always* conducted supported by the obtained highest (M=4.50, SD=0.56). This indicated that the school provides facilities and rooms which



will serve as an evacuation area in case of calamity. However, creating a no cost or low-cost disaster kit was *often* produced bearing the lowest ($M= 3.97$, $SD=0.66$). This meant that the schools provide a no cost or low-cost disaster kit, but the school should allocate funds to purchase and store abundant supply

of bottled water, food, and medicine in case of an emergency. A culture of preparation ought to be continuously noticed. Moreover, the execution of these activities should be constantly assessed and observed.

Table 6. Level of School Disaster Risk Reduction Management Capacity in terms of Disaster Preparedness

STATEMENT	Mean	SD	Remarks
1.has an outline plans for disaster management that can be used as framework	4.00	0.69	Often
2. identify potential critical incidents	4.21	0.58	Always
3. create a no cost or low-cost disaster kit	3.97	0.66	Often
4. develop a communication plan on disaster risk reduction management	4.24	0.77	Always
5. develop whole school approaches to health and safety	4.41	0.73	Always
6. make plans on disaster preparedness in the school	4.29	0.67	Always
7. establish personnel support and network	4.24	0.67	Always
8. identify places which serve as evacuation centers	4.50	0.56	Always
9. identify available support agencies	4.38	0.69	Always
10. identify list of directives during disaster	4.29	0.75	Always
11. prepare pre-disaster risk assessment tool	4.29	0.75	Always
12. check school hazards and vulnerability maps	4.44	0.60	Always
Grand Mean	4.28		Always
Interpretation	Very High		

Based on the results presented on the table below, in terms of disaster response, the level of school disaster risk reduction management capacity was *very high* shown by the grand ($M=4.24$). This result implies that the school DRRM team are well oriented and equipped with the preparedness measures as implemented by the school. But to suggest for improvement, steps to be undertaken could be orientation and reorientation, practice, drills, proper information dissemination, and open channel of communication among stakeholders.

It was revealed that the respondents perceived that enhance capacities among multi-hazard and

integrate local needs was always provided supported by the obtained highest ($M=4.38$, $SD=0.69$). This indicated that the school take care of the responsibilities in educating and capacitating the community on the multi-hazard and integrate local needs. However, managing properly the distribution of the resources intended for the victims of disaster was often identified bearing the lowest ($M= 4.06$, $SD=0.73$). This meant that the schools provide the necessary human resources including trained emergency management staff and volunteers able to make needs assessments and manage the distribution of relief aid.

Table 7. Level of School Disaster Risk Reduction Management Capacity in terms of Disaster Response

STATEMENT	Mean	SD	Remarks
1. manage health and safety training education on disaster	4.35	0.68	Always
2. improve procedures leading to greater levels of health and safety	4.21	0.76	Always
3. help contain the incident and minimize the extent of damage	4.24	0.69	Always
4. enable the teaching staff to meet obligations under various health and safety	4.32	0.67	Always
5. lead to an awareness of possibilities of preventing disasters from happening in the place	4.24	0.73	Always



6. manage personnel to handle their roles and responsibilities in the school in case of disaster	4.26	0.74	Always
7. enhance capacities among multi-hazard and integrate local needs	4.38	0.69	Always
8. implement simple risk reduction measures	4.29	0.62	Always
9. manage properly the distribution of the resources intended for the victims of disaster	4.06	0.73	Often
10. manage the preparation of logistical support	4.21	0.63	Always
11. help manage in the distribution of relief goods	4.12	0.80	Often
12. spearhead the implementation of school preparedness guide	4.12	0.72	Often
Grand Mean	4.24		Always
Interpretation	Very High		

The results on Table 8 shows that in terms of disaster mitigation, the level of school disaster risk reduction management capacity was *very high* shown by the grand (M=4.27). This means that that the school has managed all activities and risk management measures related to prevention and mitigation.

It was shown that the respondents perceived that reinforce hazard mapping in the school, conduct information dissemination on disaster mitigation awareness program, organize emergency task force to

tackle earthquake and other disaster in the school, assists in the conduct of risk profiling was *always* provided supported by the obtained highest (M=4.35, SD=0.72). This indicated that the school always provides emergency alarms and contact information visible. However, availability of Temporary Learning Space (TLS) was *often* identified bearing the lowest (M= 4.09, SD=0.66). This meant that the schools provide learning space to be used in times of disasters.

Table 8. Level of School Disaster Risk Reduction Management Capacity in terms of Disaster Mitigation

STATEMENT	Mean	SD	Remarks
1. reinforce hazard mapping in the school	4.35	0.84	Always
2. conduct information dissemination on disaster mitigation awareness program	4.35	0.80	Always
3. improve community resilience to disaster by enforcing building codes	4.29	0.82	Always
4. encourage flood plain mapping in the communities	4.18	0.71	Often
5. organize emergency task force to tackle earthquake and other disaster in the school	4.35	0.80	Always
6. the disaster plan on mitigation divides into generic sections that are applicable to all disaster and hazard generic zones	4.09	0.78	Often
7. create an enabling environment to cope with natural calamities	4.35	0.64	Always
8. develop proactive mechanism to reduce economic cost and impact of disasters	4.12	0.72	Often
9. craft a disaster mitigation plan which contribute coping mechanism during disaster	4.26	0.78	Always
10. inform the LGU the need of appropriate and sufficient resources to deal with different types of disaster	4.26	0.78	Always
11. assists in the conduct of risk profiling	4.35	0.72	Always
12. mobilize assistance for LGU for disaster mitigation	4.29	0.75	Always
Grand Mean	4.27		Always
Interpretation	Very High		

SIGNIFICANT RELATIONSHIP BETWEEN THE SCHOOL PREPAREDNESS AND DISASTER RISK REDUCTION

MANAGEMENT CAPACITY

Minitab 14 was used in computing the data gathered and treated them statistically using Pearson



Correlation Coefficient. The computed p-values were compared to the level of significance at 0.05 to determine the relationship between the school

preparedness and disaster risk reduction management capacity.

Table 9. Relationship Between the School Preparedness and Disaster Risk Reduction Management Capacity as to Disaster Preparedness

Variables	r-value	Degree of Correlation	p-value	Analysis
Infrastructure and Facilities Disaster Preparedness	0.435	Low	0.010	Significant
Disaster Risk Reduction Activities Disaster Preparedness	0.647	Moderate	0.000	Significant
Disaster Risk Reduction Education Disaster Preparedness	0.674	Moderate	0.000	Significant
Psychological Support Provision Disaster Preparedness	0.569	Moderate	0.000	Significant
Stakeholders Coordination and Networking Disaster Preparedness	0.635	Moderate	0.000	Significant

Based on the table above, there are significant relationships between the school preparedness and disaster risk reduction management capacity as to disaster preparedness. This implies that school heads and DRRM coordinators in the public schools of Victoria, Laguna are experts in disaster preparedness and disaster risk reduction management like making

an outline plans for disaster management that can be used as framework, develop communication plans for disaster, develop whole school approaches to health and safety, identify available support agencies and list of directives during disaster and conduct planning meeting to determine school needs.

Table 10. Relationship Between the School Preparedness and Disaster Risk Reduction Management Capacity as to Disaster Response

Variables	r-value	Degree of Correlation	p-value	Analysis
Infrastructure and Facilities Disaster Response	0.409	Low	0.016	Significant
Disaster Risk Reduction Activities Disaster Response	0.602	Moderate	0.000	Significant
Disaster Risk Reduction Education Disaster Response	0.720	High	0.000	Significant
Psychological Support Provision Disaster Response	0.609	Moderate	0.000	Significant
Stakeholders Coordination and Networking Disaster Response	0.646	Moderate	0.000	Significant



As indicated in the table, there are significant relationships between the school preparedness and disaster risk reduction management capacity as to disaster response. This can be inferred that the public schools' give importance as regards to disaster mitigation. This could also mean that the school heads and DRRM coordinators in the public schools

of Victoria, Laguna are aware that mitigation plan should not be divided into generic sections so that the people in the community can easily follow the different advocacies being conducted by the school managers which can develop a pro-active mechanism to reduce economic cost and impact of disasters.

Table 11. Significant Relationship Between the School Preparedness and Disaster Risk Reduction Management Capacity as to Disaster Mitigation

Variables	r-value	Degree of Correlation	p-value	Analysis
Infrastructure and Facilities				
Disaster Mitigation	0.522	Moderate	0.002	Significant
Disaster Risk Reduction Activities		Moderate		
Disaster Mitigation	0.602		0.000	Significant
Disaster Risk Reduction Education		Moderate		
Disaster Mitigation	0.661		0.000	Significant
Psychological Support Provision		Moderate		
Disaster Mitigation	0.596		0.000	Significant
Stakeholders Coordination and Networking		Moderate		
Disaster Mitigation	0.623		0.000	Significant

It can be seen on table 11 that there are significant relationships between the school preparedness and disaster risk reduction management capacity as to disaster mitigation. It can be inferred that school heads and coordinators perform disaster management. They are strictly and persistently performing out their undertakings and capacities. These findings demonstrate that the respondents demonstrate profound concern in completing what to be finished. It is in fact intriguing to take note of that as school heads and coordinators, they embody such abilities.

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REFERENCES

1. *Facing Hazards and Disasters: Understanding Human Dimensions* (2006) Chapter: 4 *Research on Disaster Response and Recovery*. National Academies Press.
2. *School Disaster Management Planning Handbook* (2014) Publisher Save the Children
3. *UNICEF Disaster Risk Reduction In Education In Emergencies. A Guidance Note For Education Clusters And Sector Coordination Groups*, A Handbook
4. Anang Amiruddin Nugroho and , Udik Budi Wibowo (2019) *The Influence of School Infrastructure on Student Learning Activeness: A Research Study*. *Advances in Social Science, Education and Humanities Research*, volume 397 3rd International Conference on Learning Innovation and Quality Education (ICLIQE 2019)
5. Barry, M. M., Clarke, A. M., Jenkins, R., & Patel, V. (2013). A systematic review of the effectiveness of mental health promotion interventions for young people in low and middle income countries. *BMC Public Health*, 13(835): 1–19.
6. Blackman, K. F., Powers, J. D., Edwards, J. D., Wegmann, K. M., Lechner, E. & Swick, D. C. (2016). *Closing the gap: Principal perspectives on an innovative school-based mental health intervention*. New York: Business Media
7. Catangui, Mary Joy B. (2020) *Customizing School-Based Disaster Risk Reduction And Management Capability*. Bicol University Polangui Campus, Polangui, Albay, Philippines. *Journal of Critical Reviews*. ISSN- 2394-5125 Vol 7, Issue 11, 2020
8. Comighud, Sheena Mae (2020) *Implementation of the Public Schools' Disaster Risk Reduction Management Program and Level of Capabilities to Respond*. pril 2020 *International Journal of Science and Research (IJSR)* 9(4):752 DOI:10.21275/SR20404215026
9. Diaz-Varela, A., Kelcey, J., Reyes, J., Gould, M., & Sklar, J. (2013). *Learning and resilience: The crucial role of social and emotional well-being in contexts of adversity*. Education notes. Washington, DC: World Bank Group
10. Durlak, J. A., et al (2011). *The Impact of enhancing students' social and emotional wellbeing: A meta-analysis of schools based universal interventions*. *Child Development*, 82, 405–432.
11. Fielding, L., Kerr, N. and Rossier, P. (2017). *Annual Growth for All Students, Catch-up Growth for Those Who Are Behind*. Kennewick, WA: The New Foundation Press.
12. Gougelet ,Robert M (2016) *Ciottone's Disaster Medicine*. 2016 : 160–166.
13. Published online 2015 Oct 23. doi: 10.1016/B978-0-323-28665-7.00027-3
14. Hagelsteen, Magnus and Burke , Joanne (2016) *Practical aspects of capacity development in the context of disaster risk reduction*. *International Journal of Disaster Risk Reduction*. Volume 16, June 2016, Pages 43-52
15. Henderson, A., Jacob, B., KernanSchloss, A., & Raimondo, B. (2014). *The Case for Parent Leadership*. Arlington, VA: KSA Plus Communications.
16. Henderson, A. & Mapp, K. (2012). *A New Wave of Evidence: The Impact of School, Family and Community Connections on Student Achievement*. Austin, TX: Southwest Educational Development Corporation (SEDL). Downloaded January 18, 2009 from <http://www.sedl.org/connections/resources/evidence.pdf>.
17. Herranz , Joaquín, Jr.(2016) *Network Performance And Coordination: A Theoretical Review and Framework*. *Public Performance & Management Review*. Vol. 33, No. 3 (March 2010), pp. 311-341 (31 pages) Published By: Taylor & Francis, Ltd.
18. Kanyasan , Kethsana et.al (2018) *Implementation of disaster risk reduction and management policies in a school setting in Lao PDR: a case study*. *Tropical Medicine and Health* volume 46, Article number: 42 (2018)
19. Ofei-Manu , Paul and Didham, Robert J. (2017) *Disaster Risk Reduction Capacity Assessment: Conceptualizing a Systematic Capacity (Assessment) Framework for Japan*.
20. Ozmen , Fatma (2016) *The level of preparedness of the schools for disasters from the aspect of the school principals*. *Disaster Prevention and*



- Management.
21. Pinar, Adnan (2017) What is Secondary School Students' Awareness on Disasters? A Case Study, *Review of International Geographical Education Online (RIGEO)*, 7 (3), 315-331. Retrieved from <http://www.rigeo.org/vol7no3/Number3Winter/RIGEO-V7-N3-4.pdf>
 22. Salita ,Crizelda et.al. (2020) Assessment of school teachers' disaster preparedness using the extended parallel process model: a cross-sectional study in Angeles City, Philippines. *Journal of Public Health*
 23. Sakurai Ah et al. (2016) Assessing school disaster preparedness by applying a comprehensive school safety framework: A case of elementary schools in Banda Aceh City. *IOP Conf. Series: Earth and Environmental Science* 56 (2017) 012021 doi:10.1088/1755-1315/56/1/012021
 24. Stocker , Fabricio et.al. (2019) Network theory of stakeholder influences: a revisited approach
 25. UNESCO Office Bangkok and Regional Bureau for Education in Asia and the Pacific Disaster Risk Reduction (DRR) in education: an imperative for education policymakers. *Digital Library*
 26. United Nations Economic Commission for Europe UNECE (2016) Towards a Single Window Trading Environment. *Achieving Effective Stakeholder Coordination. Brief No.07*
 27. Weichselgartner, J. (2015), "Disaster mitigation: the concept of vulnerability revisited", *Disaster Prevention and Management, Vol. 10 No. 2*, pp. 85-95.
<https://doi.org/10.1108/09653560110388609>
 28. IFRC Secretariat Standard Operating Procedures for Disaster Response and Early Recovery in Asia Pacific 2011
 29. Principles and Rules for Red Cross and Red Crescent Humanitarian Assistance
 30. Vaughter , Philip (2016) Unmaking Disasters: Education as a Tool for Disaster Response and Disaster Risk Reduction. *United Nations University Institute for the Advanced Study of Sustainability*
 31. Apronti , Priscilla T. et.al. (2015) Education for Disaster Risk Reduction (DRR): Linking Theory with Practice in Ghana's Basic Schools. *United Nations University Institute for the Advanced Study of Sustainability*
 32. Akash (2018) Schools' Infrastructure: A Key Element of Students' Learning Experience
 33. Babedi , Mmamore Rebecca (2015) Psychosocial Support Provided By Teachers To Adolescent Learners With Behavioural And Emotional Problems. *Unpublished Master's Thesis. University of South Africa.*
 34. Capacity for Disaster Reduction Initiative (2019)
 35. Gjedia , Robert (2015) The Evaluation of Psychological Service in School. *State Education Inspectorate Tirana/Albania*
 36. Johnson , Victoria A. (2011) Disaster Preparedness Education in Schools: Recommendations for New Zealand and the United States. *Ian Axford (New Zealand) Fellowships in Public Policy*
 37. Kapur , Radhika (n.d) *Infrastructure Development in Schools. University of Delhi*
 38. Kitagawa, Kaori (2021) Disaster risk reduction activities as learning. *Unpublished Master's Thesis.*
 39. Ministry of Education, Science and Technology (MEST) (2015) *Government of Sierra Leone, Ministry of Education, Science and Technology New Englandville Freetown, Sierra Leone*
 40. MCGOWEN , Robert Scott (2017) *The Impact Of School Facilities On Student Achievement, Attendance, Behavior, Completion Rate And Teacher Turnover Rate In Selected Texas High Schools. Unpublished Dissertation . Office of Graduate Studies of Texas A&M University*
 41. Parkash , Surya (2011) Awareness and Preparedness Strategies for Community Based Disaster Risk Management with particular reference to Landslides. *Geohazards Division, National Institute of Disaster Management, 5B, I.P. Estate, M.G. Road, New Delhi- 110002, INDIA*
 42. Parnwell , Raphael Nturibi (2015) *Influence Of School Infrastructure On Academic Performance In Public Primary Schools In Ruiru Location-Meru County, Kenya. Unpublished Master's thesis. Project Planning And Management Of The University Of Nairobi.*
 43. Petal , Marla (2017) *Disaster Risk Reduction Education in Shaw, R. and Krishnamurty, R. eds. Disaster Management: Global Challenges and Local Solutions, Universities Press, India.*
 44. Rambau, T.S., Beukes, L.D., Fraser, W., 2012, 'Disaster Risk Reduction through school learners' awareness and preparedness', *Jamba: Journal of Disaster Risk Studies* 4(1), Art. #61, 11 pages. <http://dx.doi.org/10.4102/jamba.v4i1.61>
 45. Shaw, Rajib et.al. (2019) *Education, Capacity Building and Public Awareness for Disaster Reduction. Landslides – Disaster Risk Reduction pp 499-515*
 46. Stevens, B. (2016). *Infrastructure to 2030. Paris: OECD Publishing.*
 47. *International Federation of Red Cross and Red Crescent Societies [IFRC], Reference Centre for Psychosocial Support. (2009a). Psychosocial interventions: A handbook. Retrieved from http://pscentre.org/wp-content/uploads/PSI-Handbook_EN_July10.pdf*
 48. Nalanda International School (2029) *The Perfect School Campus: The Importance of Having a Good School Infrastructure. Retrieved from nalandaschool.org/the-importance-of-having-a-good-school-infrastructure#w4*
 49. ASEAN Safe Schools Initiative (ASSI) *School Safety in the Philippines*
 50. Retrieved from <https://aseansafeschoolsinitiative.org/school-safety-in-the-philippines/>
 51. Risk Management (2020) *The Importance of School Based Disaster Risk Reduction retrieved from https://www2.erm-academy.org/publication/risk-management-*



- article/importance-school-based-disaster-risk-reduction/#:~:text=The%20safety%20of%20schools%20is,the%20impact%20of%20said%20disaster.&text=The%20level%20of%20effective%20management,solely%20dependent%20on%20this%20plan.
52. Centers for Disease Control and Prevention Biological and chemical terrorism: strategic plan for preparedness and response. Recommendations of the CDC Strategic Planning Workgroup. *Morb Mortal Wkly Rep.* April 2000;49(RR-4)
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4904a1.htm> Available at. Accessed
 53. International Federation of Red Cross (2021) Disaster preparedness retrieved from
 54. <https://media.ifrc.org/ifrc/what-we-do/disaster-and-crisis-management/disaster-preparedness/>
 55. Disaster Risk Reduction of UN (2020) Essential Nine: Ensure Effective Disaster Response retrieved from <https://www.unisdr.org/campaign/resilientcities/home/article/essential-nine-ensure-effective-disaster-response>
 56. Brian, Nobrega (2020) Emergency Management <https://www.newbedford-ma.gov/emergency-management/emergencies-disasters/mitigation/>
 57. Public Safety of Canada (2020) Disaster Prevention and Mitigation Retrieved from <https://www.publicsafety.gc.ca/cnt/mrgnc-mngmnt/dsstr-prvntn-mtgn/index-en.aspx#:~:text=Disaster%20mitigation%20measures%20are%20those,an%20emergency%20or%20disaster%20occurs.>