



ASSESSMENT OF DISASTER RISK REDUCTION MANAGEMENT OF PUBLIC SCHOOLS IN LUCBAN DISTRICT

Arcanel F. Perez

Faculty, Paaralang Sekundarya ng Lucban Integrated School

ABSTRACT

This study aimed to determine the Disaster Risk Reduction Program of Public High School in Lucban District. Specifically, it sought to answer the following questions: 1. What is the level of preparedness in the integration of Disaster Risk Reduction in terms of Curriculum content, Orientation, and Drills? 2. What is the level of preparedness in Disaster Management in terms of Responsiveness, Mitigation, and Rehabilitation? 3. Is there a significant effect in the Integration in Education and Disaster Management of the different public secondary schools in Lucban District?

The study was limited to the respondents of one hundred (100) Grade 12 students and twenty-eight (28) Grade 12 teachers of different public secondary high schools in Lucban District. The descriptive method of research was used to analyze the data systematically.

The research instrument in this study was a questionnaire checklist. It consists of an assessment of disaster risk reduction management in the following aspects: integration of disaster preparedness in education on curriculum content, orientation, and drills. Another set of questionnaires for school disaster management in the following aspects: responsiveness, mitigation, and rehabilitation was utilized.

The result of the study shows that there is a strong relationship between the integration of Disaster Preparedness in Education ($r=0.800, p=0.000$) and disaster management of public secondary schools. Thus, the hypothesis stating that there is no significant effect between the integration of disaster preparedness in Education and Disaster Management of different Public High Schools in Lucban District was rejected.

Based on the findings, it was concluded that the integration of disaster preparedness in education as to curriculum content, orientation and drills, and disaster management and responsiveness, mitigation, and rehabilitation is a concern that affects school administration, action, and planning in the school implementation plan. It is recommended that the school head should continue adapting programs for disaster management, an annual implementation plan should review most of the time and a rigorous rehabilitation plan should be implemented to avoid interruption on students learning.

Curriculum developers should continue providing the educational system the most updated instructional material related to disaster preparedness for the most comprehensive and reliable teaching reference. Teachers must abreast their knowledge and capability in disaster preparedness and mitigation to impart active and continuous learning. If necessary attend seminars or webinars in disaster-related courses. Schools may intensify the DRRM through SLAC (School Learning Action Cell). The LGU (Local Government Unit) may strengthen its partnership with other external stakeholders and other agencies for the support and technical assistance that will provide the school comprehensive background in disaster management.

INTRODUCTION

The Philippines is one of the countries that experience numerous disasters yearly. Throughout recorded history, it is considered one of the most disaster-prone countries in the world. Considering its geographical location, it is exposed to various natural hazards of earthquakes, volcanic eruptions, landslides, floods, and typhoons. Indeed, an average of 20 earthquakes per day and 20 typhoons visits the country every year.

Disaster may be considered as man-made or natural. It usually happens when we are not prepared.

In effect, it greatly affects our daily life in terms of economic, social, physical, and cultural aspects. It is also seriously disrupting the functions of community or society and causes—human, material or economic or environmental losses that exceed to community's or society's using its ability to cope using its resources. Though often caused by nature, disaster can have a human origin.

The Department of Education as one of the pillars of the society strictly implements what is mandated by the constitution, one of which is to ensure always the safety of the students.



According to R.A. 10121 also known as the Philippine Disaster and Risk Reduction Management Act of 2010, DEPED should manage and mobilize resources for disaster risk reduction and management including the National Disaster Risk Reduction and Management Fund.

As one of the bases for this study, DO 37, S. 2015 – The Comprehensive Disaster Risk Reduction and Management (DRRM) in the Basic Education Framework which guides the DRRM efforts in the basic education sector towards resilience-building in offices and schools, and to ensure that quality education is continuously provided and prioritized even during disasters and/or emergencies.

In addition, we must develop a strong program for disaster management since we cannot predict what might happen in the future especially now that the expert is predicting the occurrence of BIG ONE that will surely affect the greater area of Luzon. Public schools play a vital role in disaster preparedness, mitigation, and rehabilitation. It serves as a rehabilitation center when disaster strikes. It is a must to exert all effort to provide the school all the preparation and awareness for disaster. Let us prepare for the worst expect the better. Hence, it is important to be ready as the saying goes “LIGTAS ANG MAY ALAM.”

RESEARCH METHODOLOGY

This chapter is a discussion of methods and procedures observed in the conduct of the study. It includes the research design, respondents of the study, sampling technique, research procedure, research instrument, and statistical treatment.

Research Design

This study determined the Assessment of Disaster Risk Reduction Management of Lucban District. The descriptive method was used to collect and analyze the data about this study.

Respondents of the Study

This study was limited to selected Senior high students and teachers who served as the respondents of this study from the two public high schools in Lucban District namely: Paaralang Sekundarya ng Lucban Integrated School (PSLIS) and Nagsinamo National High School.

Purposive Sampling Technique

The purpose of selecting one hundred fifty (100) Senior High School Students and twenty-eight (28) Senior High School Teachers was to get the data about disaster preparedness and its importance in school disaster risk reduction program among Public Secondary Schools in Lucban, Quezon.

Paaralang Sekundarya ng Lucban Integrated School Grade 12-Senior High School Students

Male	Female	Total
173	213	386

Nagsinamo National High School

Male	Female	Total
10	7	17

Research Procedure

The researcher will ask permission from the superintendent of DepEd Quezon Province and the Principal of two public high schools in Lucban district to conduct his research. Administering the questionnaire to the respondents is the main source of information in this research. The researcher explained to the respondents the purpose of the study and assure the confidentiality of their answers. Data from the collected questionnaire were carefully analyzed to interpret, analyze and make suggestions and recommendations.

Research Instrument

The main tool in this study was a questionnaire checklist. A set of questionnaire checklists was constructed for teachers and students respondent. It consists of the assessment of disaster risk reduction management in the following aspects:

integration of disaster preparedness in education on training and drills. This also includes another set of questionnaires for school disaster management in the following aspects: responsiveness, mitigation, and rehabilitation. It will obtain the level of preparedness in different aspects: 5-highly prepared, 4- moderately prepared, 3-prepared, 2-quite prepared, and 1-not prepared. The questionnaire was formulated and after it was returned, after it was checked the researcher will ask the permission of the school principal so that the researcher is allowed to conduct data gathering to the respondents.

Statistical Treatment of Data

The respondent’s answers were tabulated as the basis for the statistical treatment of data of the present study.

Mean and standard deviation was used to determine the mean level of integration disaster



reduction in education in terms of curriculum content, orientation, and drills.

To determine the mean level of preparedness on disaster risk reduction in terms of responsiveness, mitigation, and rehabilitation Mean and Standard Deviation were used.

While the significant effect in the Disaster Risk Reduction Program and Disaster Management of the different public secondary schools in Lucban district was determined by using correlation analysis.

RESULTS AND DISCUSSIONS

Table 7. Effect of Integration of Disaster Preparedness in Education on Disaster Management of Public Secondary Schools as to Responsiveness

Indicator	R	Interpretation	P	Analysis
Integration of Disaster Preparedness				
<i>Curriculum Content</i>	0.766	Strong	0.000	Significant
<i>Orientation</i>	0.800	Very Strong	0.000	Significant
<i>Drill</i>	0.756	Strong	0.000	Significant

Adjusted R² 0.698

Results of the study show that there is a very strong relationship between the integration of Disaster preparedness in education as to orientation ($r=0.800$, $p=0.000$) and disaster management as to responsiveness of public secondary schools. Strong relationship, however, is seen between curriculum content ($r=0.766$, $p=0.000$), drill ($r=0.756$, $p=0.000$) and responsiveness. Such a relationship is found highly significant ($p<0.01$). Subjected to regression analysis, it shows that 69.8% of the variance of the disaster management of public secondary schools as to responsiveness is explained by the variance of the integration of disaster preparedness in education in terms of curriculum content, orientation, and drills.

Shelton (2011) further added that emergency preparedness and responses must be woven into every aspect of the built learning space. He pointed out that the goal is to reduce risk and address a plethora of threats by creating circles of protection. Risk Reduction is recognized as vital for building a more equitable future and for reducing the severity of losses during disasters. Effective risk reduction occurs when there is a cooperation between sectors of society and there is an existing disaster preparedness program in place. (Lopez and associates, 2018). It is a must to be responsive at all times not only in times of disaster but also at all times.

Table 8. Effect of Integration of Disaster Preparedness in Education on Disaster Management of Public Secondary Schools as to Mitigation

Indicator	R	Interpretation	P	Analysis
Integration of Disaster Preparedness				
<i>Curriculum Content</i>	0.757	Strong	0.000	Significant
<i>Orientation</i>	0.765	Strong	0.000	Significant
<i>Drill</i>	0.775	Strong	0.000	Significant

Adjusted R² 0.674

Results of the study show that there is a very strong relationship between the integration of Disaster preparedness in education as to orientation ($r=0.800$, $p=0.000$) and disaster management as to responsiveness of public secondary schools. Strong relationship, however, is seen between curriculum content ($r=0.766$, $p=0.000$), drill ($r=0.756$, $p=0.000$) and responsiveness. Such a relationship is found highly significant ($p<0.01$). Subjected to regression analysis, it shows that 67.4% of the variance of the disaster management of public secondary schools as to mitigation is explained by the variance of the integration of disaster preparedness in education in terms of curriculum content, orientation, and drills.

Shelton (2011) further added that emergency preparedness and responses must be woven into every aspect of the built learning space. He pointed out that the goal is to reduce risk and address a plethora of threats by creating circles of protection. Mitigation activities reduce or eliminate the damages from hazardous events. These activities can occur before, during, and after a disaster and overlap all phases of emergency management. The idea was taken from the study of Atienza (2016). It is also reflected based on the findings that almost all schools become responsive in times of disaster.



Table 9. Effect of Integration of Disaster Preparedness in Education on Disaster Management of Public Secondary Schools as to Rehabilitation

Indicator	R	Interpretation	P	Analysis
Integration of Disaster Preparedness				
<i>Curriculum Content</i>	0.641	Strong	0.000	Significant
<i>Orientation</i>	0.622	Strong	0.000	Significant
<i>Drill</i>	0.670	Strong	0.000	Significant

Adjusted R² **0.471**

Results of the study show that there is a strong relationship between the integration of Disaster preparedness in education as to orientation ($r=0.800, p=0.000$) and disaster management as to rehabilitation of public secondary schools. Strong relationship, however, is seen between curriculum content ($r=0.766, p=0.000$), drill ($r=0.756, p=0.000$) and responsiveness. Such a relationship is found highly significant ($p<0.01$). Subjected to regression analysis, it shows that 4.71% of the variance of the disaster management of public secondary schools as to rehabilitation is explained by the variance of the integration of disaster preparedness in education in terms of curriculum content, orientation, and drills.

Health-related rehabilitation begins with the onset of injury or disease and can extend over a lifetime often involving treatment in the hospital, community, and home settings. Since a person's functional needs require attention in the immediate living environment as well as in the greater community.

As mentioned in the related literature, the government and the school must see to it that the rehabilitation process would take place after disaster strikes and it should not delay nor affect the education process.

Based on the data gathered, it shows that the null hypothesis stating that "There is no significant effect between disaster risk reduction integration in education and disaster management of the different public secondary schools in Lucban district" was rejected. The conclusion derived that: there is a "significant" effect to develop a program in disaster preparedness in education in times of disaster in determining its implication to disaster risk reduction management in terms of responsiveness, mitigation, and rehabilitation.

CONCLUSIONS

Based on the findings, the following conclusions were drawn:

1. The integration of Disaster preparedness in education as to orientation and disaster management and responsiveness of public secondary schools is a concern that affects school administration especially in creating a program that will be suited to DepEd's mandate on the inclusion of disaster preparedness subject on the curriculum.

2. The integration of Disaster preparedness in education as to orientation and disaster management and mitigation of public secondary schools is a concern that affects school action and planning in the school implementation plan.

3. The integration of Disaster preparedness in education as to orientation and disaster management and rehabilitation of public secondary schools is a concern that has a significant relationship because disaster can cause a delay in students learning.

4. Based on the data gathered, it shows that the null hypothesis stating that "There is no significant effect between disaster risk reduction integration in education and disaster management of the different public secondary schools in Lucban district" was rejected. The conclusion derived that: there is "significant" effect to develop a program in disaster preparedness in education in times of disaster in determining its implication to disaster risk reduction management in terms of responsiveness, mitigation, and rehabilitation.

RECOMMENDATIONS

In view of the results of this study, the following was recommended:

1. School head may continue adapting programs for disaster management not only for compliance but it secure safety and security in the learning environment.

2. Annual school implementation plan in relation to rehabilitation and maintenance may undergo review most of the time to see if it is updated especially nowadays where disaster increases for both man-made and natural.

3. School may implement rigorous rehabilitation plan to avoid delay in students learning and should be included in LCP (Leaning Continuity Plan).

4. Curriculum developers may continue providing the educational system the most updated instructional material related to disaster preparedness for the most comprehensive and reliable teaching reference.

5. Teachers may abreast their knowledge and capability in disaster preparedness and mitigation to impart active and continuous learning. If



necessary, attend seminars or webinars in disaster-related courses.

6. Schools may intensify the DRRM system through SLAC (School Learning Action Cell).

7. The Local Government Unit (LGU) may strengthen its partnership with other external stakeholders and external other agency for the support and technical assistance about DRRM that will provide the school comprehensive background in disaster management.

REFERENCES

1. Atienza, Jouenna Marie S. (2016). *Risk Reduction Management of DEPED Schools in CALABARZON: A Disaster Response and Governance THESIS*
2. Barakat, B., Bengtsson, S., Muttarak, R., & Kebede, E.B. (2016). *Education & the Sustainable development goals (background paper prepared for the 2016 global education monitoring report)*. Paris, UNESCO
3. Brunello et.al. 2015, *The causal effect of education on health; What is the role of health behaviors?* Health Economics, <https://dx.doi.org/10.1002/hec.3141>.
4. Chou, Y-J, Huang, N., Lee, C.-H., Tsai, S, L., Tsay, J.H. & Chou, P. (2003) *Suicides after Taiwan Earthquake. International Journal of Epidemiology*, 32(6), 1007-1014 doi:10.1093/ije/dyg296
5. Cutter S. 2013. *Building disaster : resilience; steps toward sustainability, Challenges in sustainability 1(2)*, 72.
6. *Deped Order No.21 s.2015 Disaster Risk Reduction and Management Coordination and Information Protocol*.
7. Greccalda, Ray Samuel (2013). "Social Services Delivery of Local Government Units in the Municipality of Santa Cruz, Laguna". Laguna . Laguna State Polytechnic University THESIS International Federation of Red Cross and Red Crescent Societies
8. Lopez A., Echavez N., Magallen J., & Sales E.; 2018 *Level of Compliance with the Risk Reduction and Preparedness Program among Public Secondary Schools in Buenavista, Bohol, Philippines*
9. Mamon M., Suba R., Lakipson I. Jr., *Disaster Risk Reduction Knowledge of Grade 11 Students: Impact of Senior High School Disaster Education in the Philippines*.
10. Maxwell. F.J. 2012. *A Holy Challenge: Harnessing Practical Imagination in Places of Conflict, Disaster and Development*. Sofia University
11. Monami, N. M., & Salmi, A. (2012). *Preparedness of Schools in the Province of Jeddah to deal with earthquakes risks. Disaster prevention and Management: An International Journal*, 21(4), 463-473.
12. Muttarak, R., & Pothisiri, W. (2013). *The role of Education in disaster preparedness: Case study of 2012 Indian Ocean Earthquake on Thailand's Andaman Coast, Ecology and Society*, 18(4), 51 <http://dx.doi.org/10.5751/ES-06101-18045>.
13. Paton, Douglas. *Disaster Resilient Communities: Developing and Testing an All- Hazards Theory*. Published online: 01/06/2013
14. Rambau, T.S., Beukes, L.D., & Fraser, W. (2012). *Disaster Risk Reduction through school learners' awareness and preparedness. Jambá: Journal of Disaster Risk Studies*, 4(1), 1-11.
15. R.A. 10121 of 2010 *Philippine Disaster Risk Reduction and Management Act of 2010 Sendai Framework (Hyogo Framework for Action)*
16. Shaw, R., Shiwaku Hirohide Kobayashi, K., & Kobayashi, M. (2004) *Linking experience, education, perception and earthquake preparedness Disaster Prevention and Management: An International Journal*, 13(1).
17. Sinha, A., Pal, D.K., Kasar, P.K., Tiwari, R., & Sharma, A. (2018). *Knowledge, attitude and practice of disaster preparedness and mitigation among medical students. Disaster Prevention and Management: An International Journal*, 17(4), 503-507 Retrieved from <https://goo.g/uD6q5B>.
18. Skinner, B.F. (2014). *Contingencies of Reinforcement: A Theoretical analysis (vol.3)*. BF Skinner Foundation. Retrieved from <https://goo.g/3Rfctc>.
19. Smith, T. M., Drefus, A., & Hersch, G. (2011). *Habits, routines and roles of graduate students: The effects of Hurricane Ike. Occupational Therapy in Health Care*. 25(4), 283-297. doi:10.3109/07380577.2011.600426.
20. Tuladhar, G., Yatabe, R., Dahal, R., & Bhandary, N. (2015). *Assessment of disaster risk reduction knowledge of school teachers in Nepal. International Journal of Health System and Disaster Management*, 3(1), 20. UNISDR. *United Nation International Strategy for Disaster Reduction WHO. (2007) World Health Organization Benchmarks, standards and indicators*