

# Enhancement on Disaster Risk Reduction and Management (DRRM) operations of the schools in the 2<sup>nd</sup> Congressional District of Sorsogon

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**Abstract:** The study aimed to determine the enhancement on Disaster Risk Reduction and Management (DRRM) operations of the schools in the 2<sup>nd</sup> Congressional District of Sorsogon for the years 2016-2019. It used the descriptive-survey method since a questionnaire was devised in gathering the primary data as reflected in the problem. The respondents were the 30DRRM coordinators of the public elementary schools in the 2<sup>nd</sup> Congressional District of Sorsogon which were purposively chosen. The statistical tools utilized were frequency and ranking.

The study revealed that the activities conducted by the school before the disaster were the conduct regular earthquake and fire drills in rank 1 that were cited by 28 out of 30 respondents which is followed by the conduct of disaster preparedness orientation with the pupils is favored by 18 respondents that is rank 2. Similarly, 15 respondents mentioned that they meet with PTCA and other stakeholders to discuss the preparedness of the school in rank 3 then 13 respondents prepare the DRRM plan which is rank 4. Also, the integration of the disaster preparedness in the lesson was revealed by 10 respondents in rank 5.

During the disaster, the activities were the provision of advisory and announcements about the disaster and suspending classes as per DepEd guidelines were stated by 20 respondents which are tied in ranks 1 and 2. Then, the implementation of the DRRM plan was cited by 16 respondents in rank 3 while the tracking of all the school personnel and learners and coordination with LGU and barangay officials were revealed by 13 respondents that are tied in ranks 4 and 5.

The activities of the school after the disaster were the conduct of inventory of the damages came out as the most commonly done activities as cited by 24 respondents in rank 1. Then, the preparation and submission of reports of damages to the Division Office was mentioned by 18 respondents in rank 2. Meanwhile, the inspection and assessment of the condition of the infrastructures were revealed by 16 respondents that are tied in ranks 3 and 4. Also, 13 respondents said that the coordination with the government agencies for immediate assistance was stated by 13 respondents which is in rank 5.

Moreover, the top three lessons learned of the school after the disaster as revealed by the respondents were the conducts to capability building activities for increasing the knowledge and skills to cope with the impact of disasters with frequency of 23, preparedness of schools in time of disasters with frequency of 13, implementing properly the continuous and sustained conduct of disaster risk assessment with frequency of 11.

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Further, the five most commonly enhancements of DRRM operations in school are periodic conduct of trainings and simulation exercises in the school with frequency of 28, regular conduct of DRRM capability building activities for school personnel and learners with frequency of 25, and the school become the relief distribution and evacuation center of the nearby communities with frequency of 23. Then, the regular conduct of hazard mapping and vulnerability assessments in the school with frequency of 19 and the development of psychosocial programs to ensure physical and mental wellness of disaster victims with frequency of 15.

**Keywords:** Enhancement, Disaster Risk Reduction and Management (DRRM), Operation, Hazard mapping, Vulnerability Assessments, Schools in the 2<sup>nd</sup> Congressional District of Sorsogon, Philippines.

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## 1. INTRODUCTION

In every part of the world safety of persons is a matter of concern to all. In fact different organizations and institutions of learning have safety measures put in place. All institutions of learning are viewed as heavens of peace worldwide. Notwithstanding this view, institutions of learning are reported to be experiencing serious cases of insecurity. All over the world, there has been an upward trend in the number of school children dying or getting injured in school disasters and emergencies that would be avoided if safety policies were strictly adhered to (Simatwa, 2007).

According to Roser (2019), 0.1 to 0.4 or 60,000 of the total death worldwide is accounted to natural disaster. Also, Ozmen (2018) contends that the reasons for the frequency of natural disaster may stem from the mal use of nature and environment by the people such as destruction of the forests, agricultural areas, fresh water sources and the like which causes a lot of floods, fires, storms and similar kind of disasters; the other stems from the inherent nature of the earth which produces lots of quakes, volcano explosions and the like.

Disasters come in a variety of shapes and sizes, and can affect a city, a region, a state, or even an entire nation. According to Shaluf(2007), there are three different types of disasters: man-made, natural and hybrid. Man-made disasters are events such as chemical spills, industrial accidents, marine pollution, war, and acts of terror. Hybrid disasters are those that result from both man-made and natural causes.

Whatever the disaster might occur, the reality is that lots of loses, injuries and damages have been experienced during these disasters, and by training the people the rate of the loses and damages may be lessened and even in some cases may entirely be prevented. Prevention begins with information. Awareness is the first step towards action. Awareness can trigger interest, interest can lead to attention, and attention can prompt action.

Federal Emergency Management Agency or FEMA (2014) contends that with proper planning, the number of people impacted by the disaster could be reduced in the future. Preparing for the disaster even before it occurs might mitigate its horrible aftermath. Preparedness, however, is not only the responsibility of a nation's government, but is also the responsibility of every community and the citizens who are part of that community. Getting local residents involved in all aspects of DRR including educating, planning, preparing, practicing, and adopting or changing disaster policy will greatly contribute toward the community's resilience (Cutter et al., 2012).

Studies confirmed that disaster risk reduction has established that through effective education, children can be actively involved in identifying their own exposure and consequential level of risk to various disasters. They can also be empowered to identify, prevent certain disasters, and make decisions that reduce these risks.

One of these agencies is the Department of Education. DepEd has been one of the front liners in DRR since 2007. DepED Order No. 55 s 2007 prioritizes the mainstreaming of DRR in school system (ASSI, 2015). Then, RA 10121 has further mandated that DRR and climate change adaptation in the k12 curriculum. This was supported by the UNICEF by training 844 kindergartens to grade 3 teachers, school heads and supervisors (ASSI, 2015).

Over the years, the school conducted quarterly drills on proper responses on emergencies, hazards and other events. By doing these, students and faculties know how to respond appropriately and recover as quickly and effectively as possible (Russell, n.d.).

According to ASSI (2015), Sorsogon is one of the most typhoon-prone areas in the Philippines. Hence, the World Vision encouraged villages to develop risk maps and DRRM plans. The local government and DepEd conduct child-focused disaster risk reduction for children and adults thru Van-Aralan to create awareness among the villagers.

Schools in Sorsogon conducted drills regularly participated by the community and students to inculcate elicit automatic responses from them during disasters. School heads and SDRRM Coordinators formulate plans and conduct hazard mapping along with students to familiarize them with safety precautions and risk reduction plan.

Adapting Comprehensive Disaster Risk Reduction Management in Basic Education Framework, the schools conducted different DRR activities participated by focal persons from different agencies of government. These agencies help fortify the DRRM plan of the schools along with the lesson learned from previously experienced disasters.

### **1.1 Statement of the Problem**

This study aimed to determine the enhancement on the Disaster Risk Reduction Management (DRRM) of the schools in the 2<sup>nd</sup> Congressional District of Sorsogon for the years 2016-2019.

Specifically, it sought answers to the following problems:

1. What are the DRRM activities conducted by the school, before, during and after disaster?
2. What are the lessons learned by the school from the past disasters?
3. How did the lessons learned enhance the DRRM operations of the school?
4. What action plan could be proposed based on the results of the study?

### **1.2 Purpose of the study**

Sorsogon City in the Philippines is composed of four school districts, the Sorsogon East, Sorsogon West, Bacon East and Bacon West Districts. Schools within these districts experienced different hazards, either man-made or natural. Hence, it is apparent that they are knowledgeable of different DRR strategies to prevent damages, injuries and/or loss of lives. Further, these school districts have need to active DRRM plans carried out by the school head, SDRRM coordinator, faculties and students. With these foregoing facts, the researcher finds it timely and relevance to conduct a study regarding the DRRM interventions by the different schools in the Sorsogon.

## **2. RESEARCH METHODOLOGY**

This study determined the enhancement on the Disaster Risk Reduction and Management operations of the schools in the 2<sup>nd</sup> Congressional District of Sorsogon for the years 2016-2019. It made use of the descriptive-survey research design since a questionnaire was utilized to gather the primary data from the respondents. Likewise, documentary analysis and unstructured interview were utilized for the secondary data. The respondents were the DRRM coordinators of the public elementary schools in the 2<sup>nd</sup> Congressional District of Sorsogon which were purposively chosen. The results were analyzed and interpreted with the use of appropriate statistical tools such as frequency count and ranking.

## **3. RESEARCH FINDINGS AND DISCUSSIONS**

### **Findings**

Based on the data collected, the following are the findings of the study:

1. The DRRM activities conducted by the school before the disaster were the conduct regular earthquake and fire drills in rank 1 that were cited by 28 out of 30 respondents which is followed by the conduct of disaster preparedness orientation with the pupils is favored by 18 respondents that is rank 2. Similarly, 15 respondents mentioned that they meet with PTCA and other stakeholders to discuss the preparedness of the school in rank 3 then 13 respondents prepare the DRRM plan which is rank 4. Also, the integration of the disaster preparedness in the lesson was revealed by 10 respondents in rank 5.

During the disaster, the activities were the provision of advisory and announcements about the disaster and suspending classes as per DepEd guidelines were stated by 20 respondents which are tied in ranks 1 and 2. Then, the implementation of the DRRM plan was cited by 16 respondents in rank 3 while the tracking of all the school personnel and learners and coordination with LGU and barangay officials were revealed by 13 respondents that are tied in ranks 4 and 5.

The DRRM activities of the school after the disaster were the conduct of inventory of the damages came out as the most commonly done activities as cited by 24 respondents in rank 1. Then, the preparation and submission of reports of damages to the Division Office was mentioned by 18 respondents in rank 2. Meanwhile, the inspection and assessment of the condition of the infrastructures were revealed by 16 respondents that are tied in ranks 3 and 4. Also, 13 respondents said that the coordination with the government agencies for immediate assistance was stated by 13 respondents which is in rank 5.

2. The top three lessons learned of the school after the disaster as revealed by the respondents were the increased knowledge, skills and conducts capability building activities to cope with the impact of disasters with frequency of 23, capacitates the school personnel with building activities with frequency of 18, builds the evacuation center in the community as immediate shelter of the victims with frequency of 13.

3. The five most commonly enhancements of DRRM operations in school are conduct of trainings and simulation exercises in the school with frequency of 28, conduct of DRRM capability building activities for school personnel and learner with frequency of 23, and establishment of the school as evacuation center of the nearby communities with frequency of 23. Then, the conduct of hazard mapping and vulnerability assessments in the school with frequency of 19 and the development of psychosocial programs to ensure physical and mental wellness of disaster victims with frequency of 15.

4. An action plan may be proposed to enhance the implementation of Disaster Risk Reduction and Management (DRRM) operations.

#### **4. CONCLUSIONS AND RECOMMENDATIONS**

Based on the findings of the study, the researcher arrived at the following conclusions:

1. The DRRM activities conducted by the schools are the regular conduct of the earthquake and fire drills, provision of advisory and announcements about the disaster and suspension of classes based on DepEd guidelines, and the conduct of the inventory of the damages in the schools.

2. The lessons learned by majority of the schools from the past disasters are capability building activities for increasing the knowledge and skills to cope with the impact of disasters, preparedness of schools in time of disasters, and proper implementation of continuous and sustained conduct of disaster risk assessment.

3. The enhancements on the DRRM operations due to the lessons learned from the previous disasters are regular conduct of trainings and simulation, periodic holding of DRRM capability building activities for school personnel and learners, and making the school as relief and evacuation center of the nearby communities.

4. An action plan was proposed to enhance the implementation of Disaster Risk Reduction and Management (DRRM) operations in the school.

#### **Recommendations**

In the light of foregoing conclusions, the following recommendations were offered:

1. The school administrator and DRRM coordinator may give attention to the preparation of basic disaster supplies kit, provision of psychological support to learners, and facilitation of immediate resumption of classes after the disaster.

2. The DRRM coordinator may continuously sustain the capability building activities that are regularly given to the learners, teachers and other school personnel.

3. The DRRM operations may be reviewed and modified with the incorporation of the enhancements made due to the lessons learned from the past disasters.

4. The action plan may be submitted to the Division Office for possible implementation. If found feasible, may be recommended for adoption.

5. Further study may be conducted to include other variables not covered in this study and have it in a wider coverage.

## REFERENCES

### A. BOOKS

- [1] Cutter, S. (2013), A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change (IPCC). Cambridge University Press, Cambridge, UK, and New York, NY, USA, pp. 291-338.
- [2] Izadkhah, Y.O.; Hosseini, M. Towards resilient communities in developing countries through education of children for disaster preparedness. *Int. J. Emerg. Manag.* 2005, 2, 138–148.
- [3] Mitchell, T. D. Pattern scaling—an examination of the accuracy of the technique for describing future climates. *Clim. Change* 60, 217–242 (2003).
- [4] Shaluf I., 2007, An overview of Disaster, *Disaster Prevention and Management* 16 (5), 687-703.
- [5] Ozmen, F., 2006, “The level of preparedness of the schools for disaster from the aspect of the school principals”, *Disaster Prevention and Management* 15(3), 383-395.
- [6] Russell, Dora, 1975, 1981, 1985, *The Tamarisk Tree*, 3 volumes, New York: Putnam.

### B. PUBLISHED THESIS AND DISSERTATION

- [7] Akumu, O., *Disaster Awareness and Preparedness of Secondary Schools in Homa Bay County, Kenya*, 2013.
- [8] Mamon G. A. and Łokas E. L. 2005a *MNRAS* 362, 95.
- [9] Merchant, (2015), *Children and Disaster Education: An Analysis of Disaster Risk Reduction within the School Curricula of Oregon, Texas, and the Philippines*. Published 2015.
- [10] Merchant, A. *Children and Disaster Education: An analysis of Disaster Risk Reduction within the school Curricula of Oregon, Texas and the Philippines*, MAIDS Thesis Projects, 2015.
- [11] Roser, M. (2015) – ‘World Poverty’. Published online at [OurWorldInData.org](http://OurWorldInData.org). Retrieved on September 19, 2015 from: <http://ourworldindata.org/data/growth-and-distribution-of-prosperity/world-poverty>.
- [12] Sarmiento Juan-Pablo.,” Post-project review in urban disaster risk reduction *Disaster Prevention and Management*”, ISSN: 0965-3562, Publication date: 3 April 2016.
- [13] Tuladhar G, Yatabe R, Dahal RK, Bhandary NP. Disaster risk reduction knowledge of local people in Nepal. *Geoenvironmental Disasters* 2015;2:1-12. Available from: <https://www.link.springer.com/content/pdf/10.1186%2Fs40677-014-0011-4.pdf>. [Last accessed on 2017 Jul 07].

### C. UNPUBLISHED THESIS AND DISSERTATION

- [14] Simatwa, E. (2007). *Management of student discipline in Secondary schools in Bungoma District, Kenya.* Unpublished Ph. D Thesis, Maseno University.

### D. JOURNALS AND OTHER PUBLICATIONS

- [15] Alcayna, T., Bollettino, V., Dy, P., & Vinck, P. (2016). Resilience and Disaster Trends in the Philippines: Opportunities for National and Local Capacity Building. *PLoS Currents*, 8, ecurrents.dis.4a0bc960866e53bd6357ac135d740846
- [16] Ablah et al., 2009, effect on the area are continuing to put more people in vulnerable situations, thereby increasing their disaster risk, 84 References., 86 Page 6., Cited by 4 Related articles All 3 versions.
- [17] ASSI, 2015, DO 37, S. 2015 – THE COMPREHENSIVE DISASTER RISK REDUCTION AND MANAGEMENT (DRRM) IN BASIC EDUCATION FRAMEWORK
- [18] Bollettino V, Dy P, Alcayna T, Vinck P., *DisasterNet Scoping Study*. USA: Harvard Humanitarian Initiative, 2015.
- [19] Bollettino, V., Dy, P., and Vinck, P. (2018). Resilience and disaster trends in the Philippines: Opportunities for national and local capacity building. *PLOS Currents Disasters*. DOI10.1371/currents.dis.4a0bc960866e53bd6357ac135d740846.
- [20] Campilla, M., *Disaster Risk Reduction Management Practices Of School Managers*, APCAR, Melbourne, July, 2016

- [21] Department of Homeland Security (DHS, 2015)
- [22] Domingo, Sonny N., Disaster Preparedness and Local Governance in the Philippines, 2018.
- [23] Federal Emergency Management Agency (FEMA): National Exercise Program (NEP)—Capstone Exercise 2014. 2014b.
- [24] Gregorio Raczniak, B Ruan, H Kobayashi... - Journal of ..., 2003 - Am SocMicrobiology., Cited by 44 Related articles All 11 versions.
- [25] Johnston, D., Ronan, K., Finnis, K., Leonard, G., & Forsyth, J. (2011). Children’s understanding of natural hazards in TeAnau, New Zealand, following the 2003 earthquake.GNS Science Report 2011/05.
- [26] King, T., & Tarrant, R. (2013). Children’s knowledge, cognitions, and emotions surrounding natural disasters: An investigation of year 5 students, Wellington, New Zealand. Australasian Journal of Disaster and Trauma Studies, 2013(1),17.
- [27] Mamogale, H., Assessing disaster preparedness of learners and educators in Soshanguve North schools, Disaster Management and Education Centre of Africa, 2011
- [28] Mercado (2016)., Integration of CCA and DRMM into local land use plans: Issues and challenges and way forward. Adaptation to climate change and conservation of biodiversity (ACCBio) in cooperation with the LGU Planning Synergy Product Environment and Rural Development Program (EnRD)/Decentralization Program (DP) and Inventory of Methods for CCA.
- [29] Patel ND.,- World journal of 2008 - ncbi.nlm.nih.gov.,Cited by 74 Related articles All 11 versions.
- [30] Philippine Red Cross (2011)., <http://www.redcross.org.ph> ...Cited by 6 Related articles All 3 versions.
- [31] Republic Act No. 10121., May 27, 2010. Republic of the Philippines ... NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT PLAN, disaster risk reduction program incorporated in the development plan at various levels.
- [32] Shreve, Gregory. 2010., “Neural and physiological correlates of translation and interpreting in the bilingual brain: Recent
- [33] S. L. Cutter, ed., American Hazardscapes: The Regionalization of Hazards and Disasters (Washington, DC: Joseph Henry Press/National Academies, 2012)
- [34] UNESCO (2012) Disaster Risk Reduction in School Curricula: Case Studies from Thirty Countries. UNESCO
- [35] United Nations International Strategy for Disaster Reduction, Geneva, Switzerland. UNISDR, 2006: Disaster Risk Reduction Begins at School, 2006-2007.
- [36] UNISDR, 2007. Words into Action: A guide for Implementing the Hyogo Framework - Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters.
- [37] UNISDR., Disaster Risk Reduction begins at schools. In World Disaster Reduction Campaign; United Nations International Strategy for Disaster Reduction (UNISDR): Geneva, Switzerland, 2008.
- [38] Save the Children. Save the Children. 1996. Children's Participation Pack., Cited by 1490 Related articles All 11 versions.
- [39] Study Counts (2011)., Disaster Risk Reduction Management (DI- DRRM) ... Insights, Meaning, Reference count, Selected statement Cited by 5 Related articles All 2 versions
- [40] The International Bank for Reconstruction and Development/ The WorldBank. (2012)., ASEAN Advancing Disaster Risk Financing and Insurance in ASEAN Member States: Framework and Options for Implementation. Retrieved from[https://www.gfdr.org/sites/gfdr/files/publication/DRFI\\_ASEAN\\_REPORT\\_June12.pdf](https://www.gfdr.org/sites/gfdr/files/publication/DRFI_ASEAN_REPORT_June12.pdf)
- [41] Vicerra, P. M. M., Salvador, J. M. G., &Capili, Y. M. V. (2018). Disaster Preparedness Knowledge and Action: Population Development Perspective. Asia Pacific Journal of Multidisciplinary Research, 6(1). Retrieved from <https://goo.gl/k93rRk>.