

ASSURING PROMPT AND APPROPRIATE MITIGATING MEASURES FOR DISASTER RISK REDUCTION PROGRAM IN BASIC EDUCATION

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Abstract: This study aims to assess the status of implementation of disaster risk reduction measures of school heads in the identified schools. The researchers used the descriptive research method to gather information about the respondents' level of disaster measures and respondent groups satisfaction in terms of safety of school records, school properties and pupils and school personnel. The data obtained were analyzed using percentage weighted mean, standard deviation, and two independent sample t-test, utilizing 0.05 level of significance. finding shows that although the respondent groups have received appropriate training and seminars for possible disaster risk reduction measures, still the respondent groups perceived some risk in dealing with unexpected disaster due to lack of resources and coordination with an expert in times of disaster. Results also shows that there is a need to elevate the training and information dissemination in terms of DRR and strengthen the policy and programs in order to address the needs of the respondent especially the teachers. Overall, after careful analysis of the results of this study, all variables are pointing out to the importance of improving the DRR measure and prevention.

Keywords: Disaster Risk Reduction, Mitigating Measures, Basic Education Program

1. Introduction

Disasters are uncontrolled threats confronting the world which create a pressing challenge on the part of the schools because they bring risks to the safety of the learners, teachers, school personnel, school properties and records (Saltman, 2015; Baytiyeh & Ocal, 2016). The learning of the learners is affected due to disturbances in the actual class contact time, psychological impact of the catastrophes, and health and economic issues (Sigh et al., 2020). Teachers and school personnel consume additional hours restoring the school systems to normal (Sonnentag, 2001). The flow of the lessons is disrupted. Disasters denude buildings, fences, furniture, computers, textbooks, instructional materials and other school properties (Stewart, 2016). Records can also be

destroyed and distorted. In fact, the United Nations Children's Fund (UNICEF) claimed that children and adolescents faced with ongoing violence or natural disasters often fail or perform poorly on required standardized tests, which can influence their future opportunities. Poor performance is compounded by interrupted periods of schooling.

Myers (2017) stated that not only are we altering the Earth's atmosphere, but our young people and future generations are as well. It is now impossible to avoid disasters; therefore, everyone must focus on their own defense (Goldberg, 2000). The United Nations' strategy, the effect of catastrophe is a severe disturbance to the overall functionality of a population or culture, resulting in wide-ranging individual, material, and even environmental and/environmental capital casualties that outweigh the affected community's capacity to deal with them." Moreover, a disaster is an unforeseen event, which can overwhelm the capacity of the affected people to manage its impact (Al-Dahash et al., 2016). Many people are periodically exposed to natural disasters in their life, and most disasters, or more correctly hazards that lead to disasters, cannot be prevented. However, their 11 effects can be mitigated. Disaster management efforts aim to reduce or avoid the potential losses from hazards, assure prompt and appropriate assistance to the victims of a disaster, and achieve a rapid and effective recovery (Nia et al., 2017).

Recent article defined by Kirschenbaum (2019) emphasized that disaster management as a plan that has been done strategically & the process is administered & employed to protect critical assets from natural or human made calamities & destruction take place. She expressed that disaster management is a necessity in every country, because the world is becoming vulnerable to natural disaster, and the number of casualties has skyrocketed in the past 20 years.

The goal of the UN Office for Mitigation of Catastrophe Risk is to assess and monitor risk after a disaster has occurred. preventing threats, lowering the risks people's vulnerability to them, lessening the possibility of personal injury, or loss, wise land and environmental protection Disasters usually accompany natural disasters. The seriousness of a catastrophe is gauged by how big a danger is. It is the combined effect of the decisions we make in our lives that in consequence have on the effect on the world (UNSDR, 2009).

The National Disaster Risk Reduction and Management Council (NDRRMC) of the Philippines reported that when Super Typhoon Yolanda (International Name: Haiyan) hit the country in 2013, it left 6,300 casualties, 28,689 injured and 1,061 missing, and unprecedented destruction in various educational investments. In the Division of DepEd Tacloban City, Typhoon Yolanda has totally damaged 45 classrooms, 20 of which are located in the main school, the international community signed the adoption of the Hyogo Framework for Action (HFA) 2005-2010: Building the Resilience of Nations and Communities to Disasters. It is a 10-year disaster risk reduction blueprint strategy adopted by 168 governments over the world including the Philippines.

Priority 3 of HFA which is to "use knowledge, innovation and education to build a culture of safety and resilience at all levels" is considerably relevant and attached to education.⁴ As a response to HFA, the Department of Education issued DepEd Order No. 55, s. 2007 about "Prioritizing the Mainstreaming of Disaster Risk Reduction Management in the School System and Implementation of Programs and Projects Relative Therefore" of which under its non-structural component, the department prepared the Disaster Risk Reduction Resource Manual which serves as source of information to be used by school administrators, school heads/principals, supervisors

and teachers relative to the implementation of disaster risk reduction management projects.

In 2010, the government passed Republic Act No. 10121 known as the Philippine Disaster Risk Reduction and Management Act. Consequently, the Department of Education reiterated the related implementing guidelines on Climate Change Adaptation and Disaster Risk Reduction at all school levels through DepEd Order 82, s. 2010. Thus, the researcher has thought of taking an in-depth look into the level of awareness and status of implementation of disaster risk reduction measures of school heads of elementary schools in the identified schools.

2. Purpose of the Study

This research assessed the status of implementation of disaster risk reduction measures in the identified public schools. The level of disaster risk reduction measures in terms of: information dissemination and advocacy campaign, policy mechanisms, organizational structure, mitigation measures and the level of satisfaction in terms: safety of school records, safety of school properties and safety of learners and school personnel were considered in the main problem of the study.

3. Research Methodology

This research utilized the descriptive research method on assessing the level of disaster preparedness. It also utilizes the comparative design as it sought to determine differences in the level of awareness and status of implementation of disaster risk reduction measures in the identified schools. The independent variable was the level of awareness of the school heads on the disaster risk reduction measures in terms of information dissemination and advocacy campaign, policy mechanisms, organizational structure, mitigation measures ensuring the safety of pupils and school personnel, school properties and school records. The instrument used in this study was the survey questionnaire developed from the issuances of the Department of Education related to disaster risk reduction. The listed items about the level of awareness of school heads on disaster risk reduction measures in terms of: information dissemination and advocacy campaign, policy mechanisms, organizational structure, mitigation measures ensuring the safety of pupils and school personnel, school properties and school records. Part II stipulated items to assess the status of implementation of disaster risk reduction measures in terms of information dissemination and advocacy campaign, policy mechanisms, organizational structure, mitigation measures.

4. Results and Discussions

Table 1 presents how both the administrators and the teachers assessed in terms of information dissemination and advocacy campaign. Findings have shown that training/seminar/orientation on drills should be conducted/attended got the highest weighted mean of 4.37 which verbally describe as strongly agree, while the statement the school shall conduct information dissemination on hazards in school got the lowest weighted mean of 4.02 which verbally described as agree. This indicates that teacher group perceived that there's a need to conduct relevant training and seminars related to disaster in the school. Administrator on the other, training/seminar/orientation on developing a disaster risk reduction plan should be conducted/attended got the highest weighted mean of 4.51, which verbally described as strongly agree.

Table 1. Information Dissemination and Advocacy Campaign

Indicators	Teachers		Administrator	
	Mean	VD	Mean	VD
Training/seminar/orientation on developing a disaster risk reduction plan should be conducted/attended	4.16	SA	4.51	SA
Schools should participate in the activities related to the observance of National Disaster Consciousness Month	4.32	SA	4.43	SA
Conduct/attend training/seminar/orientation on the organization of disaster risk reduction groups	4.11	A	4.22	SA
The school shall conduct information dissemination on hazards in school	4.02	A	4.61	SA
Training/seminar/orientation on the utilization of Disaster Risk Reduction Manual should be conducted/attended	4.16	A	4.26	SA
Training/seminar/orientation on drills should be conducted/attended	4.37	SA	4.25	SA
Grand Mean	4.19	A	4.38	SA

While, conduct/attend training/seminar/orientation on the organization of disaster risk reduction groups got the lowest weighted mean of 4.22 which verbally described as strongly agree. By comparing the average mean on the perception of the school administrators and teachers, the school administrators' responses got the average mean of 4.38 which can be described as strongly agree, while teachers' responses got the average mean of 4.19 which can be verbally described as agree. Though there is difference between both respondent groups' perception, it can still be stated that there is a need to elevate the training and information dissemination in terms of DRR.

Table 2. Policy Mechanisms

Indicators	Teachers		Administrator	
	Mean	VD	Mean	VD
School heads shall take the lead role in planning activities to promote a safe school environment	4.26	SA	4.26	SA
School heads shall ensure the participation of students, teachers, parents, community members, local authorities, and other concerned stakeholders in promoting safe school environment	4.20	A	4.43	SA
Concerned local DepEd officials are directed to establish effective lines of communications with their respective LGU	4.18	A	4.21	AS
Any decision to cancel or suspend classes must come from the local government. A school head may only cancel or suspend classes in cases where urgent action is needed to prevent loss of life or bodily harm	4.14	A	4.28	A
Every school shall have a garden with vegetables and root crops which can be consumed at times the school is used as evacuation center	4.10	A	4.14	A
The school shall mainstream disaster risk reduction concepts in the school curriculum.	4.38	SA	4.24	SA
Grand Mean	4.38	SA	4.26	SA

Table 2 presents how both the administrators and the teachers assessed in terms of policy mechanism. Findings have shown that the school shall mainstream disaster risk reduction concepts in the school curriculum got the highest weighted mean of 4.38 which verbally describe as strongly agree, while the statement every school shall have a garden with vegetables and root crops which can be consumed at times the school is used as evacuation center got the lowest weighted mean of 4.10 which verbally

described as agree. Administrator on the other, school heads shall ensure the participation of students, teachers, parents, community members, local authorities, and other concerned stakeholders in promoting safe school environment got the highest weighted mean of 4.43, which verbally described as strongly agree. While, every school shall have a garden with vegetables and root crops which can be consumed at times the school is used as evacuation center got the lowest weighted mean of 4.14 which verbally described as agree. By comparing the average mean on the perception of the school administrators and teachers, the school administrators' responses got the average mean of 4.26 which can be described as strongly agree, while teachers' responses got the average mean of 4.38 which can be verbally described as strongly agree. This indicates that there is a need for the school to strengthen the policy and programs in disaster risk reduction.

Table 3. Organizational Structure

Indicators	Teachers		Administrator	
	Mean	VD	Mean	VD
School Disaster Risk Reduction Group or committee should be formed	3.98	A	4.32	SA
Disaster Risk Reduction and Management Focal Person should be designated	4.06	A	4.65	SA
Disaster Risk Reduction and Management Office should be designated	4.32	SA	4.82	SA
Disaster Assessment Team and the Needs Analysis Team, Search and Rescue Team, Medical Team, Fire Suppression Team, Relief and Evacuation Team and other Response Teams should be formed	4.15	A	4.29	SA
Volunteers should be organized	4.18	A	4.30	SA
Capabilities for the members of the DRR Group should be assessed	4.21	SA	4.48	SA
Grand Mean	4.15	A	4.48	SA

Table 3 presents how both the administrators and the teachers assessed in terms of organizational structure. Findings have shown that Disaster Risk Reduction and Management Office should be designated got the highest weighted mean of 4.32 which verbally describe as strongly agree, while the statement refers to school Disaster Risk Reduction Group or committee should be formed got the lowest weighted mean of 3.98 which verbally described as agree. Administrator on the other Disaster Risk Reduction and Management Office should be designated got the highest weighted mean of 4.82, which verbally described as strongly agree. While, volunteers should be organized got the lowest weighted mean of 4.32 which verbally described as agree. By comparing the average mean on the perception of the school administrators and teachers, the school administrators' responses got the average mean of 4.48 which can be described as strongly agree, while teachers' responses got the average mean of 4.15 which can be verbally described as agree. This indicates that there is a need for the school to maximize the participation of school community in upbringing the preparation of disasters.

Table 4 presents how both the administrators and the teachers assessed in terms of mitigation measures. Findings have shown that early warning devices and signages should be installed got the highest weighted mean of 4.38 which verbally describe as strongly agree, while the statement refers to Pupils and school personnel should participate in drills got the lowest weighted mean of 4.02 which verbally described as agree. Administrator on the other hand, early warning devices and signages should be installed got the highest weighted mean of 4.37, which verbally described as strongly

agree. While, safe places where children and school personnel can go in case of emergencies should be identified got the lowest weighted mean of 4.22 which verbally described as strongly agree.

Table 4. Mitigation Measures

Indicators	Teachers		Administrator	
	Mean	VD	Mean	VD
Evacuation/exit plan on every floor of the building should be in place	4.21	SA	4.26	SA
Emergency exits should be identified	4.18	A	4.32	SA
Safe places where children and school personnel can go in case of emergencies should be identified	4.18	A	4.22	SA
Pupils and school personnel should be educated what to do before, during and after disasters	4.14	A	4.61	AS
Pupils and school personnel should participate in drills	4.02	A	4.26	SA
Early warning devices and signages should be installed	4.38	SA	4.37	SA
Grand Mean	4.19	A	4.34	SA

By comparing the average mean on the perception of the school administrators and teachers, the school administrators' responses got the average mean of 4.34 which can be described as strongly agree, while teachers' responses got the average mean of 4.19 which can be verbally described as agree. This indicates that there is a need for the school to elevate the participation of school community in dealing with disasters.

Table 5. Safety of School Properties

Indicators	Teachers		Administrator	
	Mean	VD	Mean	VD
Proposed to proper authorities the construction of structures to protect the school from mudflows, landslides and the like	4.21	SS	4.32	SS
Stored textbooks, teaching manuals and equipment in a safe place, preferably on an elevated room to ensure protection from rain or flood	4.13	S	4.25	SS
Invited proper authorities to conduct a regular inspection and maintenance of sanitary and sewerage system	4.02	S	4.22	SS
Invited proper authorities to conduct regular assessment and repair of school buildings	4.11	S	4.29	SS
Safety of School Properties	4.16	S	4.30	SS
Constructed school buildings in accordance with approved standards	4.15	S	4.23	SS
Grand Mean	4.13	S	4.26	SS

Table 5 presents the satisfaction of administrators and the teachers in terms of safety of school properties. By comparing the average mean on the satisfaction of the school administrators and teachers, the school administrators' responses got the average mean of 4.26 which can be described as strongly satisfied while teachers' responses got the average mean of 4.13 which can be verbally described as agree. This indicates that teachers were not strongly satisfied in terms of the safety of school properties, this implied that there is a need to enhance the school structure to prevent damage on school properties if disaster would arise.

Table 6 presents the satisfaction of administrators and the teachers in terms of ensuring the safety of school records. By comparing the average mean on the satisfaction of the school administrators and teachers, the school administrators' responses got the average mean of 4.14 which can be described as satisfied while teachers' responses got the average mean of 3.76 which can be verbally described as agree. This indicates that

teachers and administrators were not strongly satisfied in terms of the safety of school records, this implied that there is a need to restructure the safekeeping place of the school records in order to prevent from damage.

Table 6. Safety of School Records

Indicators	Teachers		Administrator	
	Mean	VD	Mean	VD
Built a well-fastened overhead cabinet for important documents	3.53	A	4.01	A
Provided safe storage of records	3.48	A	4.25	SA
Provided a fire and flood proof vault for vital school records	4.16	A	4.16	A
Stored back-up files of vital documents in safe place	4.21	SA	4.11	AA
Ensuring the Safety of School Records	3.64	A	4.12	A
Established and/or installed back up files of vital records	3.80	A	4.15	A
Built a well-fastened overhead cabinet for important documents	3.53	A	4.21	SA
Grand Mean	3.76	A	4.14	A

Table 7. Safety of Pupils and School Personnel

Indicators	Teachers		Administrator	
	Mean	VD	Mean	VD
Educated pupils and school personnel what to do before, during and after disasters	4.02	A	4.21	SA
Posted evacuation/exit plan	3.48	A	3.64	A
Identified emergency exits	4.16	A	4.07	A
Identified safe places where children and school personnel can go in case of emergencies	4.21	SA	4.24	SA
Installed early warning devices and signages	3.64	AA	3.18	A
Educated pupils and school personnel what to do before, during and after disasters	4.07	A	4.10	A
Posted evacuation/exit plan	4.01	A	4.06	A
Grand Mean	3.94	A	3.93	A

Table 7 presents the satisfaction of administrators and the teachers in terms of safety of pupils and school personnel. By comparing the average mean on the satisfaction of the school administrators and teachers, the school administrators' responses got the average mean of 3.93 which can be described as satisfied while teachers' responses got the average mean of 3.94 which can be verbally described as agree. This indicates that teachers and administrators were not strongly satisfied in terms of their safety inside the school, moreover, this implied that there is a need for the division to revisit the school structure to prevent casualties if disaster would arise.

Table 8. Test of Significant Difference

Constructs	Mean (Teachers Administrators)	p-value	Remarks
Information Dissemination	4.19 4.38	0.048901	Significant
Policy Mechanism	4.21 4.26	0.397512	Not Significant
Organizational Structure	4.15 4.48	0.009189	Significant
Mitigation Measures	4.19 4.34	0.066054	Not Significant

Table 8 presents the data in terms of the test of significant difference of the respondent groups as to the level of disaster risk reduction measures. Finding shows that information dissemination and organizational structure were significant, this indicate that there is a significant difference on the way they perceived the identified measures. On the contrary, policy mechanism and mitigation measures, finding shows that the two DRR measures were not significant, hence there is strong evidence of the null hypothesis. This indicates that respondent groups perceived the DRR measures in terms of policy mechanism and mitigation measures.

Conclusion

Based on the findings of the study, the following conclusions were drawn. The schools were engaging on different trainings and seminars relating to disaster risk reduction measures, however, finding shows that although the respondent groups have received appropriate training and seminars, for possible prevention, still the respondent groups perceived some risk in dealing with unexpected disaster due to lack of resources and coordination with an expert in times of disaster. Results also shows that there is a need to elevate the training and information dissemination in terms of DRR and strengthen the policy and programs in order to address the needs of the respondent especially the teachers.

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