



## Evaluating Partnerships to Enhance Disaster Preparedness in the Coastal and Upland Secondary Schools

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### ABSTRACT

This paper contributes to disaster literature by examining the secondary school teachers' level of disaster preparedness and the extent of problems they encountered in the implementation of preparedness measures in terms of partnership among stakeholders in their respective school locales. Further, this study tested whether or not the two variables have a significant relationship. The significant difference between the coastal and upland secondary school teachers' level of disaster preparedness and extent of problems encountered in strengthening partnership among stakeholders was also tested. Descriptive-correlational method was used in this study with 582 respondents from the 15 coastal and 12 upland secondary schools of the first congressional district of Negros Oriental, Philippines. Findings reveal that the respondents' level of disaster preparedness in terms of partnership among stakeholders is insufficient. The extent of problems encountered they encountered in strengthening partnership among stakeholders is moderate. Poor commitment of other stakeholders to implement disaster risk reduction plan is cited as the number one problem. Further, the respondents' level of disaster preparedness and extent of problems they encountered in terms of partnership among stakeholders have a significant relationship with moderate negative correlation. It indicates that as the respondents' level of disaster preparedness increases, the extent of problems encountered decreases in terms of partnership among stakeholders. Furthermore, there is no significant difference between coastal and upland school teachers' level of disaster preparedness and the extent of problems they encountered in the implementation of preparedness measures in terms of partnership among stakeholders. Both coastal and upland schools can be given the same interventions to strengthen partnership among stakeholders to prepare for future disaster events.

*Keywords:* partnership; stakeholders; disaster preparedness

### INTRODUCTION

Disasters considered as complex problems necessitate a *collective* actions from different governmental and non-governmental institutions since no single individual, group or agency can address every type of disaster alone (Twigg & Bottomley, 2011). A partnership approach is needed to provide an avenue to think more widely and to learn from the various expertise and varying

ideas and perspectives. (Carrera, Veracc Van Beek, Bruckner, & Werner, 2015). Further, a commitment to collaborative action for disaster risk reduction is a pre-requisite to generate learning and improved practice for all stakeholders concerned (Voluntary Organisations in Cooperation in Emergencies, 2013).

Collaboration with local government units has been a practice for successful school disaster risk reduction and long-term viability. Partnership with the local government units helps root the preparedness concept in local planning, to gain technical and financial support for mitigation measures, and to ensure the school disaster preparedness long-term sustainability (Twigg & Bottomley, 2011).

In July 2016, the Department of Education (DepEd), Commission on Higher Education (CHED), and the Philippine Red Cross (PRC) forged a partnership for the promotion of volunteerism, humanitarian values, and culture of safety and health through the establishment of Red Cross Youth Councils (RCYCs) in schools nationwide. (Department of Education, 2018). Further, this tripartite partnership provides trainings that will equip teachers, learners, and facilitators with the necessary knowledge and skills on basic life support and first aid in every school across the country. These will better prepare them to respond in the event of disasters and emergencies to save more lives and ensure resilience.

However, in times of disaster event, difficulties arise from a variety of elements, systems, processes, and actors, and it is hard to get a clear picture of the entire situation within the time frame of a crisis (McEntire 2002). In this context, difficulty not only refers to the number of actors in the network, but also to the many interactions between them at the various organizational levels (Rao, Chaudhury, & Chakka, 1995). Such interactions are necessary for achieving mutual adjustment and collective mindfulness (Weick & Sutcliffe, 2001). At the community level, information needs to flow in a coordinated manner through a multi-organizational and multi-level grid, which means that the functioning of the





organizations involved not only depends on their internal interactions but on the interactions with other agencies as well (Carrera, et al., 2015).

The need for coordination in school disaster management is undisputed, with lack of coordination, it leads to a number of possible failures (Voluntary Organisations in Cooperation in Emergencies, 2013). The school as an organization may fail to achieve the desired goals because of difficulties in interaction and coordination of the different stakeholders (Librera, Bryant, & Martz, 2004). The multiple actors and interactions, resources and goals in school need to be coordinated if common desired outcomes are to be achieved (Crowston, 1977).

Lack of coordination results in conflicts and misunderstanding (International Federation of Red Cross and Red Crescent Societies (IFRCRCS), 2000). The solution to coordination problems lies in the actors performing additional activities called coordination mechanisms. Dependences are best managed by coordination of the dependent parties (Crowston, 1977).

Despite its obvious significance, partnership and coordination in the area of disaster preparedness have thus far received relatively little scientific attention (Chen, Sharman, Chakravarti, Rao, & Upadhyaya, 2008). Little is known about the challenges and obstacles when it comes to strengthening partnership and coordination effectively among stakeholders in coastal and upland schools (Ren, Kiesler, & Fussell, 2008). It is in this light that this study is undertaken.

No single group or organization can address every aspect of such a wide-ranging and complex way of dealing with disasters. Partnerships among stakeholders are said to be essential for successful disaster risk reduction (Voluntary Organisations in Cooperation in Emergencies, 2013).

### **Objectives of the Study**

The study primarily aimed to determine the coastal and upland secondary school teachers' level of disaster preparedness and the extent of problems they encountered in the implementation of the disaster preparedness measures in terms of

partnership among stakeholders in the first congressional district of Negros Oriental. Further, this study tested the significant relationship of the two variables. The significant difference between coastal and upland school teachers' level of disaster preparedness in terms of partnership among stakeholders was also tested. Furthermore, it also tested the significant difference between coastal and upland school teachers' extent of problems encountered

### **Methodology**

This is a descriptive-correlational study utilizing the survey method in the gathering of data. A researcher-made survey questionnaire is the main research instrument used in this study. It is formulated from different sources. The first part on the respondents' level of disaster preparedness in terms of partnership among stakeholders was formulated based on the disaster preparedness checklists of Department of Education Disaster Risk Reduction Resource Manual. The second part on the extent of problems encountered by the respondents is formulated based on the problems cited during the Regional Conference on Education in Emergencies and Disaster Risk Reduction on December 10-12 2013 in the Philippines cited in Toolkit for Building Disaster Resilient Schools. The survey questionnaire underwent pre-testing and reliability test.

The study was conducted in 27 secondary schools offering STEM and GAS in their senior high school based on the database of the Department of Education in 2016 in the first congressional district of Negros Oriental. The respondents of this study are the 582 school teachers who willingly participated in the survey.

Spearman Rho was used to testing the significant relationship between the respondents' level of disaster preparedness to respondents' frequency of experience of the natural hazard occurrences and the severity of the impact. It is a statistical measure of strength and direction of the association between two ranked variables. Mann Whitney U test was used to test the significant difference

**Results and Discussion****Table 1. Respondents' level of disaster preparedness in terms of partnerships among all stakeholders**

Preparedness Measures	Coastal Schools (n=15)		Upland Schools (n=12)		Over-all $\bar{w}\bar{x}$	Description
	$\bar{w}\bar{x}$	Description	$\bar{w}\bar{x}$	Description		
1. Sought the assistance of the local government, parents, NGOs and other stakeholders in preparing the school to withstand disasters	3.32	Satisfactory	3.19	Satisfactory	3.25	Satisfactory
2. maintained standing agreements with NGOs and government agencies that can give assistance before, during, and after the disasters	3.28	Satisfactory	3.06	Satisfactory	3.17	Satisfactory
3. Identified the persons to coordinate NGOs/ GOs, agencies, and other stakeholders in times of emergency	3.30	Satisfactory	3.22	Satisfactory	3.26	Satisfactory
4. Maintained Coordinated Regional, Division, District and school approaches for effective disaster response;	3.26	Satisfactory	2.99	Satisfactory	3.12	Satisfactory
5. Conducted regular dialogue between parents, teachers, local government agencies, NGO, and other stakeholders	3.17	Satisfactory	2.96	Satisfactory	3.06	Satisfactory
6. maintained bilateral coordination among cluster members, partners and stakeholders for timely and effective humanitarian response	3.21	Satisfactory	2.94	Satisfactory	3.08	Satisfactory
Over-all $\bar{w}\bar{x}$	3.26	Satisfactory	3.06	Satisfactory	3.16	Satisfactory

**Legend:**

Range of Values	Verbal Interpretation
4.21 - 5.00	Outstanding
3.41 - 4.20	Very Satisfactory
2.61 - 3.40	Satisfactory
1.81 - 2.60	Fair

As shown in table 1, the secondary school teachers' level of disaster preparedness in terms of partnership among all stakeholders is rated over-all as satisfactory. The satisfactory rating means that the preparedness measures are only complied sometimes. This is a clear indication of insufficiency of preparedness among both coastal and upland secondary school teachers. The findings further reveal that conducted regular dialogue between parents, teachers, local government agencies, NGO, and other stakeholders receives the

lowest rating. This study suggests that there is a need to keep the communication and conduct regular meetings and dialogues among stakeholders to reinforce commitment.

Some related study supports the result of this study. Sobremisana and Pilar (2014) showed that the preparedness level of the City of Mandaluyong is weak in terms of the private-public partnership. There is a need to strengthen the commitment among stakeholders to implement disaster preparedness plans.

**Table 2. Respondents' extent of problems encountered in terms of the partnership among all stakeholders**

Problems Encountered	Coastal Schools (n=15)		Upland Schools (n=12)		Over-all $\bar{w}\bar{x}$	Description	Rank
	$\bar{w}\bar{x}$	Description	$\bar{w}\bar{x}$	Description			
1.Lack of coordination and communication among Disaster Risk Reduction Management stakeholders	2.54	Minor	3.03	Moderate	2.78	Moderate	5
2. Poor commitment of other stakeholders to implement disaster risk reduction plan	2.58	Minor	3.08	Moderate	2.83	Moderate	1
3. Absence of parents' engagement to support Disaster Risk Reduction Management	2.65	Moderate	2.93	Moderate	2.79	Moderate	3.5
4. Poor attendance during dialogues/meetings among stakeholders	2.58	Minor	3.04	Moderate	2.81	Moderate	2
5. No regular dialogues/meetings conducted among stakeholders	2.79	Moderate	2.79	Moderate	2.79	Moderate	3.5
Over-all $\bar{w}\bar{x}$	2.59	Minor	3.02	Moderate	2.80	Moderate	

**Legend:**

Range of Values	Verbal Interpretation
4.21 - 5.00	Very Serious
3.41 - 4.20	Serious
2.61 - 3.40	Moderate
1.81 - 2.60	Minor
1.00 - 1.80	No Problem

Table 2 reveals that the respondents' extent of problems encountered in terms of partnership among stakeholders has an overall rating of moderate. It indicates that problems encountered in this area are sometimes true. The findings further show that poor commitment of other stakeholders received the highest rating of moderate extent. It is followed by poor attendance during dialogues/meetings among stakeholders, the absence of parents' engagement to support disaster risk reduction management, and lack of coordination and communication among disaster risk reduction management stakeholders, respectively.

The result of this study suggests that school management has to strengthen partnerships with various government, non-governmental organizations and other stakeholders through regular coordination and meetings to ensure their

commitment to implement disaster preparedness plans. There is a need to improve the collaboration of actions for disaster preparedness among stakeholders to generate learning and improved practice for all stakeholders concerned. A memorandum of agreement between organizations or agencies have to be done to seriously fulfill the commitment between parties in disaster preparedness

This study is supported by the case study of Gregorio & Kobayashi (2013) among Typhoon Yolanda stricken schools which reveals lack of communication among DepEd personnel during emergency and clear coordination at the school level in terms of management of donation. This study also supported the study of Galindo, Villanueva, & Enguito (2014) in Ozamiz City that emphasizes coordination as a problem encountered in disaster preparedness.

**Table 3. Correlation between the respondents' extent of problems encountered and their level of disaster preparedness**

Respondent's Extent of Problems Encountered versus their Level of Disaster Preparedness  Criteria	rho	Verbal Interpretation	P-Value $\alpha = .05$	Decision	Remarks
. Partnership Among All Stakeholders	-.433	Moderate Correlation	.024	Reject H <sub>0</sub>	Relationship is Significant

**Legend:**

<b>r<sub>s</sub> - value</b>	<b>Interpretation</b>
± < 0.20	± slight correlation
± 0.20 – 0.39	± low correlation
± 0.40 – 0.59	± moderate correlation
± 0.60 – 0.79	± high correlation
± 0.80-1.00	± very high correlation

Table 3 reveals that the respondents' level of disaster preparedness and extent of problems encountered in terms partnership among stakeholders have a significant relationship with moderate negative correlation. The finding indicates that as the respondents' level of disaster preparedness in terms of partnership among stakeholders increases, their extent of problems encountered decreases in moderate level. This suggests that strengthening the regular and strict implementation of the disaster preparedness measures should be done to minimize the problems encountered in the implementation of disaster preparedness efforts. The regular needs assessment can be done to address problems and gaps in the implementation of these preparedness measures.

**Table 4. Significant difference between the coastal and upland school teachers' level of disaster preparedness in their respective school communities**

Respondents' Level of Disaster Preparedness in their Respective School Communities in terms of:	Coastal Schools (Over-all $\bar{w}_x$ )	Upland Schools (Over-all $\bar{w}_x$ )	Test of Difference (Mann-Whitney U-Test Value ( $U_A$ ))	Lower Limit (LL)	Upper Limit (UL)	Decision	Remarks
. Partnership Among All Stakeholders	3.26	3.06	18	5	31	Accept H <sub>0</sub>	No Significant Difference

Table 27 reveals that there is no significant difference between the coastal and upland school personnel's extent of problems encountered in the implementation of the disaster preparedness measures in their respective school communities. It suggests that The same interventions can be done by the school management to reduce the respondents' problems encountered in the implementation of the disaster preparedness measures in both upland and coastal schools.

**Table 5. Significant difference between coastal and upland secondary school teachers' extent of problems encountered in the implementation of the disaster preparedness in terms of partnership among stakeholders**

Respondents' Extent of Problems Encountered in the Implementation of the Disaster Preparedness Measures in terms of:	Coastal Schools (Over-all $\bar{w}\bar{x}$ )	Upland Schools (Over-all $\bar{w}\bar{x}$ )	Test of Difference (Mann-Whitney U-Test Value ( $U_A$ ))	Lower Limit (LL)	Upper Limit (UL)	Decision	Remarks
. Partnership Among All Stakeholders	2.59	3.02	12.50	2	23	Accept <b>H<sub>0</sub></b>	No Significant Difference

Table 5 shows that there is no significant difference between coastal and upland school personnel's level of disaster preparedness in partnership among stakeholders. Similar courses of actions may be implemented by the school management to enhance the respondents' level of disaster preparedness in both coastal and upland school.

### Conclusions

The secondary school teachers' level of disaster preparedness in terms of partnership among stakeholders is insufficient. The extent of problems encountered in strengthening partnership among stakeholders is sometimes true. Further, the respondents' level of disaster preparedness and extent of problems encountered in terms of partnership among stakeholders have a significant relationship with moderate negative correlation. It indicates that as the respondents' level of disaster preparedness increases, the extent of problems encountered decreases. Furthermore, there is no significant difference between coastal and upland school personnel's level of disaster preparedness in terms of partnership among stakeholders. The

extent of problems encountered in the implementation of preparedness measures in terms of partnership among stakeholders between coastal and upland secondary school personnel has no significant difference. Both coastal and upland schools can be given the same interventions to strengthen partnership among stakeholders towards the enhancement of school disaster preparedness.

### Recommendations

There is a need to strengthen partnership and coordination among stakeholders by keeping the communication and conducting regular meetings and dialogues to reassure commitment and improve collaboration actions for disaster preparedness which can generate learning and improved practice for all stakeholders concerned. Regular and strict implementation of the disaster preparedness measures should be done to minimize the problems encountered in the implementation of disaster preparedness efforts. The needs assessment can be done regularly to address problems and gaps in the implementation of these preparedness measures.

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