DISASTER PREPAREDNESS IN SAGAY CITY

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Corresponding Author: Robert S. Pardillo; Email: dabert1216@yahoo.com; doi:10.46360/globus.xxxxxxx**Abstract**

Republic Act 10121 otherwise known as “Philippine Disaster Risk Reduction and Management Act of 2010 provide a systematic outline to guide implementers a very clear path on disaster preparedness. In November of 2013, Philippines experience typhoon Yolanda, Sagay City was one of the cities who experience this great ordeal of disaster. Thus the purpose of this study was to determine the level of disaster preparedness in the Division of Sagay City as perceived by the school administrators, teachers, and students. The level of disaster preparedness of the participants was determined based on four thematic areas namely: school buildings and facilities, program and project implemented, schools as evacuation centers and teachers and students training. The study was done by sourcing out data from 61 school administrators, 267 teachers and 379 students of the 65 elementary and secondary schools of the Division of Sagay City through a researcher-developed questionnaire which was anchored to the Gawad KALASAG checklist of the Office of the Civil Defense. The questionnaire was supplemented with Focus Group Discussion. Statistical tools employed were frequency and percentage to determine the school profile and mean, used to determine the level of disaster preparedness. To determine the differences among variables t-test and analysis of variance were used. The findings of the study revealed that there is a significant difference on the area of programs and project implemented interpreted based on its mean that younger and older school administrators differ significantly in their perceptions of the level of disaster preparedness of the implementing school. Older administrators implement more programs on disaster preparedness compared to their younger counterpart. Among students, the grade level is significant; it is because that high school student experienced the same level of preparedness when they were in the elementary. While when students are grouped according to the age, the result is not significant in the assessment of the four areas of the level of preparedness.

Keywords: School Disaster Preparedness, School Building, Disaster Facilities, Disaster Program, and Implementation.

Introduction

Natural and human-induced disasters are rampant in certain areas around the globe especially in disaster-prone and risk - vulnerable countries. In the Philippines, where most of the provinces are susceptible to natural and human-induced disaster, disaster risk management acquires gradually more crucial to the government's interference (Nakagawa, 2013).

Super typhoon “Yolanda” is the most powerful and devastating tropical cyclone that struck the Philippines in recent memory. The Category 5 typhoon made its first landfall over Guiuan, Eastern Samar in the early morning of November 8, 2013, and wreaked havoc, primarily on the Visayas region, until its exit from the Philippine area of responsibility the following day (GMA News Online, 2013).

With the monstrous effect of Super Typhoon Yolanda, the government disaster preparedness has been exposed. The weaknesses and significant gaps in the country's disaster response and management system were revealed once more. Despite a solid and functioning disaster risk reduction and management (DRRM) structure, the government's responses still came across as reactive and not proactive, insufficient, inefficient and for the most part, too slow (Osai 2016).

According to Sagay City Research and Planning Office, most of the island barangay in Sagay were greatly affected by calamities. In the hazard Assessment Profile report in 2014 released by Sagay City - Office of the City Mayor it was revealed that 100% of the barangays in Sagay were under threat by typhoons, earthquake, fire and epidemic outbreak. Furthermore, in the flood assessment conducted by the city, 12% or 3 barangay were affected by flooding. Also, three barangays were prone to coastal erosion and storm surge. These are Brgy, Himoga - An Baybay, Brgy, Old Sagay, and Brgy, Molocaboc where schools are also situated.

Sagay City had been devastated by Typhoon Yolanda, most especially the island barangays of Sagay. The researcher had seen the areas personally as he visited the islands of Molocaboc, Suyac, and Matabas in the relief operation and stress debriefing activity together with his officers. Such

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encounter revealed that people in the island take refuge to houses that are concrete during the strike of ST Yolanda. They did not consider the school as a safe place to stay. Schools in the Division of Sagay do not even have the assessment tools in measuring the preparedness of the school, personnel, and students regarding the disaster.

As Youth Formation Program Division Coordinator, the researcher has a strong motivation to conduct this research for the protection of school children when disaster comes. Furthermore, as Red Cross Program Coordinator and Gawad KALASAG (Kalamidad at Sakuna Labanan, Sariling Galing ang Kaligtasan) Focal person of the Division of Sagay, the researcher has decided to conduct this study to formulate plans and policies for disaster preparedness in Sagay City schools.

The study was anchored on Republic Act 10121 otherwise known as “Philippine Disaster Risk Reduction and Management Act of 2010. It provides a systematic outline to guide implementers a very clear path on disaster preparedness. The Social Cognitive Theory supports it. Social Cognitive Theory in the context of disaster preparedness showed that people’s motivation to prepare for disasters is a function of the cognitive and affective reactions to a natural hazard. When individuals are motivated, intentions to prepare are formed by their outcome expectancies and self-efficacy.

Statement of the Problem

This study aimed to assess the extent of disaster preparedness in the public elementary and secondary schools in the Division of Sagay City, Negros Occidental during the school year 2015 - 2016. Specifically, it sought to answer the following questions:

1. What is the profile of all public schools in the Division of Sagay City in terms of:
 - i. School Location,
 - ii. Number of School Classrooms,
 - iii. Type of School Building, and
 - iv. Source of DRRM fund?
2. What is the profile of all public school administrators in the Division of Sagay City in terms of:
 - a. Age and
 - b. Sex?
 - c. What is the profile of all public school teachers in the Division of Sagay City in terms of:
 - i. Age,
 - ii. Sex, and
 - iii. Teachers’ Qualification?

- d. What is the profile of students in the Division of Sagay City in terms of:
 - i. Grade Level and
 - ii. Age?
- e. What is the level of disaster preparedness of implementing schools in the Division of Sagay City in the following areas and when they are grouped according to variables?
 - i. School Buildings and Facilities,
 - ii. Program and Project Implemented,
 - iii. Schools as Evacuation Centers, and
 - iv. Teachers’ and Students’ Training?
- f. Is there a significant difference in the disaster preparedness of implementing schools in the Division of Sagay City in different areas and when grouped according to school profile, school administrators, teachers, and students?
- g. Is there a significant relationship on the disaster preparedness of implementing schools in the Division of Sagay City on different areas and when grouped according to school profile, school administrators, teachers, and students?

Methodology

Research Instrument and Sources of Data

This study utilized the descriptive survey method in data collection. It was supplemented by the focus group discussion to validate the primary data gathered from the survey and acquire a deeper understanding of the issue involved. The study was conducted in the Division of Sagay City in all public elementary and secondary schools for the academic year 2016 - 2017. Respondents of this study are the 61 school administrators, 267 teachers and 379 students of the 65 elementary and secondary schools of the Division of Sagay City. They were selected through sampling.

This study is limited only to assess the extent of disaster preparedness of all schools in the Division of Sagay city particularly on the four thematic areas: Preparedness of School Buildings and Facilities, Programs and Project Implemented by the school, Preparedness of school as Evacuation Center, and Preparedness of Teachers and Students. The researcher anchored the questionnaire from the Gawad KALASAG checklist developed by the Office of the Civil defense. The questionnaire is composed of two main parts namely: Part I is the respondent's profile, and Part II is the survey

profile, and it was subjected to the reliability and validity test.

Procedure for Data Analysis

To provide answers to the problems of the study, frequency, mean and percentage were used as

descriptive statistics. For determining the level of significance and correlation, t-test and Analysis of variance, and Pearson Product Moment Correlation were used. All data were computer-processed.

Result and Discussion

Profile of all Public Schools

Table 1: Profile of Public Schools in the Division of Sagay City

Variables	f	%
School Location		
Central	10	16.4
Upland	34	55.7
Coastal	17	27.9
Total	61	100
Number of School Classrooms		
10 classrooms and below	39	63.9
11 - 15 classrooms	12	19.7
16 – 20 classroom	4	6.5
21 classrooms and above	6	9.8
Total	61	100
Type of School Building		
SEDP	5	8.2
Marcos Type	7	11.5
Gabaldon Type	9	14.8
PCCI	6	9.8
DPWH	24	39.3
Others	10	16.4
Total	61	100.0
Source of DRRM Fund		
MOOE	51	83.6
Canteen	2	3.3
PTA	7	11.5
Others	1	1.6
Total	61	100.0

Generally, most of the schools are located in the upland areas and mostly have ten classrooms and below. 39.3% of the classrooms are DPWH designed. Regarding Disaster preparedness, Maintaining Operating and Other Expenses (MOOE) school fund is the main source of fund.

Profile of all Public Schools Administrators

Table 2: Profile of the Public Schools Administrators in the Division of Sagay City

Variables	f	%
Age		
Younger	29	47.5
Older	32	52.5
Total	61	100.0
Sex		
Male	24	43.1
Female	37	56.9
Total	61	100.0

The profiles of the Public School Administrators in the Division of Sagay City mostly are older with 52.50 %, and the majority of them with 56.90 % are females.

Profile of all Public Schools Teachers

Table 3: Profile of the Public Schools' Teachers in the Division of Sagay

Variables	<i>f</i>	%
Age		
Younger	141	52.8
Older	126	47.2
Total	267	100.0
Sex		
Male	41	15.4
Female	226	84.6
Total	267	100.0
Teachers Qualification		
With MA units	187	70.0
Master's Degree	51	19.1
With Doctoral Units	27	10.1
Pd. D. Ed D.	2	0.7
Total	267	100.0

Mostly the teachers in the Division of Sagay City are younger, with 52.8%, the majority are females with 84.6 %, and 70% of the teachers have units in the Master's Degree.

Profile of The Students

Table 4: Profile of the Students Respondents in the Division of Sagay City

Variables	<i>f</i>	%
Grade Level		
Intermediate	213	56.2
Junior High School	132	34.8
Senior High School	34	9.0
Total	379	100.0
Age		
12 years old and below	212	56.0
13 to 15 years old	88	23.2
16 years old and above	79	20.8
Total	379	100.0

Most of the students - respondents are in their intermediate years with 56.2 %, and the majority of them ages 12 years old and below with 56%.

Level of Disaster Preparedness of the Implementing Schools

Table 5: Level of Disaster Preparedness of the Implementing Schools as Assessed by School Administrators, Teachers, and Students

Areas of School Preparedness	Administrators			Teachers			Students		
	M	SD	Interpre-tation	M	SD	Interpre-tation	M	SD	Interpre-tation
Preparedness of School buildings and Facilities	3.38	0.73	Moderate	3.61	0.78	High	3.99	0.61	High
Preparedness on Programs and Projects Implemented by the School	3.88	0.57	High	3.94	0.74	High	4.12	0.60	High
Preparedness of School as Evacuation Center	3.32	0.89	Moderate	3.69	0.83	High	3.98	0.68	High
Preparedness of Teachers and Students Trainings	3.30	0.94	Moderate	3.54	0.99	High	4.05	0.77	High
As a Whole	3.44	0.73	High	3.68	0.79	High	4.03	0.60	High

On the level of disaster preparedness of the implementing schools as assessed by administrators, teachers and students revealed that when taken as a whole in the four areas are high except on the area of preparedness of school buildings and facilities as perceived by administrators as moderate. It is because those administrators are the ones that plan, formulate programs and projects for the school related to disaster preparedness. Thus, the administrators know very well if programs formulated by her office was duly implemented or not. Furthermore, administrators are also the approving authority for every proposal presented by the teachers and students, and it might be that for the administrator's point of view disaster preparedness for teachers and students are not enough.

Table 6: Significant Differences on the Level of Disaster Preparedness of the Implementing Schools as Assessed by School Administrators when Grouped According to Age

Areas of Preparedness Practices	Age	Mean	Sd	Df	t	P	Interpretation
Preparedness of School buildings and Facilities	Younger Older	3.18 3.56	0.73 0.69	49	-1.91	0.06	Not Significant
Preparedness on Programs and Projects Implemented by the School	Younger Older	3.72 4.03	0.58 0.52	49	-2.03	0.05	Significant
Preparedness of School as Evacuation Center	Younger Older	3.10 3.52	1.02 0.71	49	-1.74	0.09	Not Significant
Preparedness of Teachers and Students Trainings	Younger Older	3.06 3.51	1.07 0.75	49	-1.76	0.09	Not Significant
As a Whole	Younger Older	3.20 3.66	0.90 0.47	49	-2.33	0.02	Significant

Furthermore, the result presented in this table can be interpreted to mean that younger and older school administrators differ significantly in their perceptions of the level of disaster preparedness of the implementing school. Older administrators implement more programs on disaster preparedness compared to their younger counterpart. The reason for having a significant difference in the area of programs and projects implemented is that the long experience they have as older administrators. As senior administrators, they wanted to make sure that the school implements more programs and projects on disaster preparedness. They wanted to make sure that the school where they are assigned as school head are ready when disaster strikes. Level of Disaster Preparedness of the Implementing Schools when grouped according to school location.

Table 7: Level of Disaster Preparedness of the Implementing Schools when Grouped According to School Location

Preparedness Practices	Central			Upland			Coastal		
	M	SD	Interpretation	M	SD	Interpretation	M	SD	Interpretation
Preparedness of School buildings and Facilities	3.48	0.56	High	3.32	0.58	Average	3.42	0.99	High
Preparedness on Programs and Projects Implemented by the School	4.2	0.53	High	3.72	0.57	High	3.98	0.51	High
Preparedness of School as Evacuation Center	3.74	0.6	High	3.05	0.98	Average	3.54	0.72	High
Preparedness of Teachers and Students Trainings	3.69	0.87	High	2.96	0.99	Average	3.62	0.73	High
As a Whole	3.78	0.58	High	3.2	0.85	Average	3.64	0.47	High

Additionally, in the area of Teachers' and Students' Training, respondents of schools from central and coastal have high level while teachers assigned in the upland has a mean score of 2.96 which is interpreted as average. This only means that most of the time coastal schools are prone from flooding and storm surge so therefore school personnel should be ready while upland schools are protected by mountains from strong winds. Furthermore, schools that have 21 and above number of classrooms have high level of preparedness. In terms of

type of school building, the SEDF, PCCI, DPWH, PTA and another type of school building have high level of disaster preparedness. Level of Disaster Preparedness of Implementing schools as assessed by school administrators when grouped according to sex.

Table 8: Level of Disaster Preparedness of the Implementing Schools as Assessed by School Administrators when Grouped According to Sex

Areas of Preparedness	Male			Female		
	M	SD	Interpretation	M	SD	Interpretation
Preparedness of School buildings and Facilities	3.28	0.78	Average	3.46	0.70	High
Preparedness on Programs and Projects Implemented by the School	3.74	0.57	High	3.99	0.54	High
Preparedness of School a Evacuation Center	3.23	0.72	Average	3.39	1.00	Average
Preparedness of Teachers and Students Trainings	3.30	0.93	Average	3.29	0.96	Average
As a Whole	3.39	0.59	Average	3.48	0.84	High

Further, the female school administrators assessed School Building and Facilities, Program and Project Implemented as high level while for female and male school administrators but when taken as whole male administrators scored average in the four areas. This is because male administrators are more focused on the physical aspect of the school just like ground improvement.

Among teachers, both young and old also both male and female, assessed the four areas as a high level of disaster preparedness practices. Therefore, among teachers they feel that their school and themselves are more prepared based on the results.

On the area of teachers and students training when, all four areas were assessed with high level except for the teachers with Master's Degree. Moreover, teachers with Ph.D./Ed.D. Degree assessed School Building and Facilities and Schools as Evacuation Centers with average level.

Among students, regarding grade level, all four areas were assessed as high, except for the junior high school students who assessed Program and Project Implemented by the school with a very high level of disaster preparedness.

Further, students as grouped according to age, assessed the level of disaster preparedness of the implementing school with high level except for students with 13 to 15 years old who assessed Program and Project Implemented by the school with very high level. Significant relationship on disaster preparedness

On the significant difference on the disaster preparedness of implementing schools in the

Division of Sagay City, the school profile is not significant among four areas except for school location on the teachers and students training and also the type of school building on school as an evacuation center.

For the school administrators, when grouped according to age, the areas of Program and Project Implemented by the school is significant while on other areas are not significant. While for grouping of school administrators according to sex, in the four areas, is not significant.

Among teachers, age and qualification are not significant in the assessment of the four areas of the level of preparedness.

Among students, the grade level is significant; it is because that high school student experienced the same level of preparedness when they were in the elementary. While when students are grouped according to the age, the result is not significant in the assessment of the four areas of the level of preparedness.

Conclusion

High levels of disaster preparedness were found to be dominant based on the school profile, as assessed by the school administrators, teachers, and students. High level signifies that the schools implementing the disaster preparedness program are performing on what is being asked and required by the Department of Education. However, the high level signifies a little above the average level which means that the schools need to improve more.

A significant divergence can be noted among junior high school students, ages 13-15 years old assessed Program and Project Implemented by the school with a very high level of disaster preparedness. It signifies that schools have implemented well the programs and training among students belonging to the junior high school group. It signifies that this group of students was recipients of continuous program implementation. The need for more training and implementation among another group of students needs to be strengthened. In the four areas, the area Program and Project Implemented by the school were found to be significant among grade level of students but not significant in other variables and areas. It signifies that disaster preparedness is only dominant among program and project implementation but not on other three areas. The need to balance the implementation of disaster preparedness in the School Buildings and Facilities, Schools as Evacuation Centers and Teachers' and Students' Training needs to be given more attention and fully addressed.

Recommendation

Based on the results of the study, the following are recommended.

1. To the division office, the department needs to realign plans and program implementation, be given with enough appropriated budget, that would level of all four areas and that the level of preparedness should fully reach the highest level. Evaluation of school buildings be given attention, and in the establishment of school building the disaster preparedness should be included in the approval and acceptance of a plan and finished structure.
2. To the school administrators, there is a need to evaluate the implementation of the program among their respective schools. The need to balance out the implementation in all four areas is highly recommended. For any conduct of the program, teachers should be involved and should be required to participate in all four areas so to raise their awareness and increase participation. Also, these are a need to increase the budget allocation for their school funds during the School Improvement Planning for upgrading educational facilities for safer and hazard free school. Furthermore, conduct constant communication with the disaster risk reduction team in their locality and make updates to the school community. School leaders should include sustainable yearly activities in the disaster preparedness through educating the whole school community with the inclusion of parents, teachers, and students such as drills, first aid, and quick response. Also, the discussion of the DRRM program should be integrated into the school curriculum.
3. The Division Project Development Officer (DRRM) in coordination with the local government should work together and plan out a widespread and sustainable implementation of disaster preparedness. The schools and division offices should also give budget allocation for DRRM priority.
4. Teachers should undergo training and workshop on disaster risk reduction management that would help to increase to the highest level of preparedness. Teachers may integrate into the lesson the disaster preparedness.
5. All students should also undergo training and workshop on disaster preparedness. Students' organization should integrate disaster preparedness activities in their yearly school activities.
6. Parents should be active participants and supporters to the school program and project on disaster preparedness concerning simple mitigation and prevention strategies.

Conflict of Interest

There is no Conflict of Interest in this work.

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