Disaster Preparedness Of Schools In Region 8, Philippines After Super Typhoon Haiyan

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Abstract: Philippines is one of the countries in the world that are mostly hit by the highest number of disasters each year. On November 8, 2013; the Super Typhoon Haiyan, known in the Philippines as Super Typhoon "Yolanda" swept the central Philippines, particularly in Region 8 which composed of Leyte and Samar Island and killed over 6,000 people, displaced some four million. The devastations it brought to schools and communities were unquestionably beyond imagination. The same super typhoon scenario can occur without warning at any time, and children are the most vulnerable. The study aimed to determine the status of Disaster Risk Reduction Management (DRRM) Program implementation of public elementary and secondary schools. The research methodology used in this study was descriptive assessment research design using questionnaire as the principal data-gathering instrument. Findings revealed that public schools in the Island of Samar were prone to typhoons/tropical storms, floods/flash floods and severe rainfall. The problem encountered by the respondents on the implementation of the DRRM Program includes insufficient fund subsidy from DepEd for DRRM implementation in school; limited financial support from the stakeholders; limited facilities and equipment of the school for DRRM implementation; and absence of modern technology needed for the implementation. The output of the study was the DRRM Program Enhancement Strategies/Plan believed to create a paradigm shift from reactive to proactive DRRM wherein school heads, teachers, pupils/students, and internal/external stakeholders have increased their awareness and understanding of DRRM in school, with the end in view of increasing school resilience and decreasing vulnerabilities.

Keywords: Disaster Risk Reduction and Management, DRRM, Super Typhoon, Haiyan, Yolanda, Tacloban City, Storm Surge, tsunami, Region 8, Eastern Visayas

1. Introduction

Disaster is a serious disruption of the normal functioning of the society, causing widespread human, material and environmental losses, which exceed the ability of the affected people to cope[1]. In 2016, the Philippines was fourth among the countries in the world that are usually hit by the highest number of disasters over the past 20 years. A total of 274 disasters were recorded in the Philippines from 1995 to 2016, trailing the United States (472), China (441), and India (288)[2]. On November 8, 2013 Super Typhoon Haiyan or "Yolanda" in local name swept the central Philippines, particularly Region 8 which composed of Leyte and Samar Islands, it killed over 6,000 people[3], displaced some four million and caused extensive damage. The same Yolanda scenario and more other disasters can occur without warning at any time which may cause loss of life or injury, property damage, social, physical, emotional, psychological, economic and environmental disruption, degrading the hope among people. Unsafe schools have and will continue to betray the trust and hope that placed in them unless schools are conscious and pro-active. Leaners will continue will be killed, injured, and drop-out in schools in huge numbers, unless responsibility is jointly taken to make them safe. School's Disaster Risk Reduction Management (DRRM) program implementation have a greater positive influence on the lives of the learners. Thus, the main focus of this study was to determine the status of DRRM Program implementation of public secondary schools in the Island of Samar because the researcher fully believed that if school, communities and the Department of Education (DepEd) take responsibility for the safety in school, this have profound impact on the immediate and long-term future safety of learners in schools and all of people associated with to which other barangays, provinces, and countries could adopt in an effort to prevent, prepare, response, and mitigate different problems and issues brought by natural disaster continue to serve its clientele – the learners. Damaged schools disrupt hard-won educational rights. When instruction time is lost, quality of education drops. With years of experience as School DRRM Coordinator in one of the public schools, the researcher is very concerned and made commitment to himself to conduct this study on DRRM that could help school in the prevention, protection, mitigation, response and recovery and specially in order to protect school children from the impacts of disasters in schools.

2. Research Questions

This study aimed to determine status of disaster preparedness of public elementary and secondary schools in Region 8, Philippines After Super Typhoon Haiyan as basis for the formulation of proposed program improvement strategies/plan.

Specifically, it sought to answer the following questions:

1. What is the profile of public elementary and secondary schools in Region 8 in terms of:
   1.1 proneness to disaster;
   1.2 availability of DRRM facilities and equipment for disaster response;
   1.3 Budget Allocation for DRRM implementation.
2. What is the status disaster preparedness of public elementary and secondary schools in Region 8 in terms of the following program components:
   2.1 projects and activities;
   2.2 personnel;
   2.3 budget;
   2.4 facilities and equipment;
   2.5 monitoring and evaluation?
3. Is there a significant difference in the perception of the respondents on the status of disaster preparedness of schools in Region 8?

4. Is there significant relationship between the status of disaster preparedness and profile of schools in Region 8?
5. What are the problems and issues associated with disaster preparedness of schools in Region 8?

3. Methodology

3.1 Research Design

This study employed the descriptive assessment research design with quantitative method for the research by using questionnaire as the principal data gathering instrument. According to Calmorin (2010) descriptive assessment research design involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data.

3.2 Locale and Time of the Study

This study was conducted among 40 mostly to severely affected public elementary and secondary schools of typhoon Yolanda among four (4) divisions in different municipalities in Region 8 as declared by National Disaster Risk Reduction Management Council (NDRRMC), namely: Division of Leyte, Division of Eastern Samar, Division of Tacloban and Division of Samar (Philippine Star, 2013). Figure 1 showed the actual path of Yolanda and its affected areas.

Figure 1: *Map of Region 8, Philippines Showing the Severely Affected Areas along the Path of Super Typhoon Haiyan or "Yolanda" [4]*

3.3 Respondents of the Study, Sampling Techniques and Data Collection

The respondents involve in this study were composed of public elementary and secondary school administrators, teachers and external stakeholders among the 40 mostly to severely affected public elementary and secondary schools of typhoon Yolanda (based on figure 1) among four (4) schools divisions in Region 8, namely: Leyte, Tacloban, Eastern Samar and Samar Division. 200 were taken as a sample and considered respondents of the study. The purposive sampling technique used in the selection of school respondent school. The primary method of gathering data are through survey questionnaires. These questionnaires were distributed 200 respondents in four (4) Schools Division.

4. Results

4.1 Profile of the Respondents

The profile includes the school proneness to disaster, and its DRRM resources as to the number of DRRM personnel in school, budget allocation, and facilities and equipment for DRRM response.

4.1.1 Proneness to Disaster

Table 1: Distribution of the Profile of Schools in Region 8 in terms of the Proneness to Disaster

Disaster Type	Elementary School		Secondary School	
	f	Rank	f	Rank
Typhoon/Tropical Storm	39	1	25	1
Floods/Flashfloods	22	2	13	2.5
Severe Rainfall	16	3	13	2.5
Fire / Wildfire	8	5	6	4
Thunderstorms and lighting	9	4	5	5
Landslide	4	7.5	4	7
Storm Surge	6	6	4	7
Drought	4	7.5	4	7
Tsunami	3	9	3	9
Terrorism / Arm Conflict	0	12	2	10
Pollution, Toxic Waste, Fumes	2	10.5	1	11.5
Tornadoes/ Buhawi	2	10.5	1	11.5
Volcanic Eruption	0	12	0	13.5
Sinkhole	0	12	0	13.5

The result in Table 1 suggests that Region 8 were prone to hydrometeorological hazards such as typhoons, heavy rains and its adverse effects such as floods and landslide.

4.1.2 Facilities and Equipment for Disaster Response

Table 2: *Distribution of the Profile of Schools in Region 8 in terms of the Facilities and Equipment for Disaster response*

Facilities & Equipment	Elementary School		Secondary School	
	f	Rank	f	Rank
Fire extinguisher	19	5	18	1.5
Telephone & Cellphones	31	1	18	1.5
Computers with Internet connection	25	3	15	3
Sufficient No. of Comfort Rooms	27	2	14	4
Source of sufficient, clean and potable water	21	4	12	5
A gym & covered court	12	6	9	6.5
Temporary Learning Areas (TLA)	4	9	9	6.5
DRRM kits (e.g. disaster kits)	4	9	7	8
Fire exits	9	7	6	9.5
Back-up Generators	3	11	6	9.5
Hand-held communication radios (walkie-talkie)	4	9	3	11.5
Land Vehicles	2	12	3	11.5
Search and Rescue Boats	0	13.5	1	13.5
Life Vests/Jackets	0	13.5	1	13.5

The result on table 2 implies that schools really lack vital emergency rescue facilities. These rescue facilities are really needed to avoid damage to life during disasters. Without these facilities, both the life of the rescuees and rescuer would be at risk, therefore rescue activity would be useless.

4.1.3 Budget Allocation for Disaster Preparedness Implementation

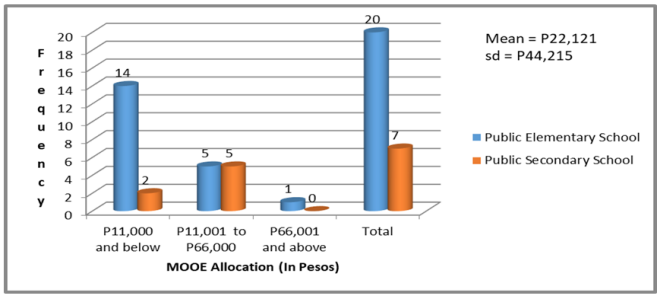

Figure 2: *Budget Allocation for DRRM Implementation (in Pesos)*

This revealed that most of schools in Region 8 only allocate small budget for the disaster preparedness program implementation especially in the elementary level.

4.2 Status on Disaster Preparedness

4.2.1 Projects and Activities.

Table 2: *Mean and Standard Deviation on the Perception of the Respondents on the Status of Disaster Preparedness of Schools in Region 8 in terms of Projects and Activities*

Projects and Activities	Administrators			Teachers			Stakeholders			Grand Total		
	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd
The school ensures the implementation of DepEd Order. No. 43 s., 2012	3.93	VS	0.81	4.05	VS	0.90	4.07	VS	0.84	4.02	VS	0.85
Immediate resumption of classes is facilitated after the disaster.	3.93	VS	0.77	3.88	VS	0.88	3.91	VS	0.87	3.91	VS	0.84
DRRM is integrated in regular school programs/activities and School Improvement Plan (SIP)	3.78	VS	0.95	3.87	VS	0.92	3.77	VS	0.90	3.81	VS	0.92
There is coordination with local DRRM council on the conduct of preparedness activities and on response needs, among others	3.74	VS	0.99	3.80	VS	0.93	3.70	VS	0.95	3.74	VS	0.96
Reports on the effect of any hazards are prepared and submitted.	3.68	VS	0.90	3.81	VS	0.91	3.71	VS	0.95	3.74	VS	0.92
There is a conduct of rapid assessment of damages after every hazard and submit of RADar (Revised Rapid Assessment of Damages Report) within 72 hours via text/SMS.	3.88	VS	0.78	3.71	VS	0.94	3.64	VS	0.91	3.74	VS	0.88
There is an organized school DRRM team to support the implementation of preparedness and response measures.	3.74	VS	0.89	3.77	VS	0.98	3.59	VS	1.00	3.70	VS	0.95
The safekeeping of the vital school records and learning materials are well-maintained.	3.74	VS	0.95	3.72	VS	0.94	3.62	VS	0.94	3.69	VS	0.94
The effects of hazards, including the use of the school as evacuation center is regularly monitored.	3.59	VS	0.91	3.75	VS	0.93	3.70	VS	0.94	3.68	VS	0.93
Recovery and rehabilitation intervention activity being implemented in the school are regularly monitored.	3.68	VS	0.87	3.70	VS	0.88	3.65	VS	0.91	3.67	VS	0.89
All school personnel during disasters and/or emergencies are tracked/followed up.	3.64	VS	0.87	3.71	VS	0.92	3.65	VS	0.96	3.66	VS	0.92
Special projects are conducted.	3.51	VS	0.73	3.69	VS	0.75	3.58	VS	0.80	3.59	VS	0.76
The school ensures the availability of DRRM updated baseline education data.	3.61	VS	0.89	3.59	VS	0.95	3.42	S	0.98	3.54	VS	0.94
The school conducts an annual student-led risk identification and mapping within and around the school premises to ensure a safe environment that is conducive to teaching and learning.	3.45	S	0.95	3.62	VS	0.96	3.52	VS	1.01	3.53	VS	0.97
Disaster preparedness measures, including but not limited to multi-hazard drills applicable to schools identified are periodically conducted.	3.54	VS	0.88	3.54	VS	0.93	3.46	S	0.92	3.51	VS	0.91
Safety preparedness measures and evacuation plans are posted.	3.46	S	0.95	3.59	VS	1.02	3.42	S	1.09	3.49	S	1.02
Temporary Learning Spaces (TLS) and alternative delivery modes of education are identified.	3.41	S	1.05	3.54	VS	0.88	3.45	S	0.95	3.47	S	0.96
The school maintains, disseminates, and posts relevant and updated emergency hotlines in strategic locations throughout the school	3.42	S	0.90	3.50	S	0.97	3.39	S	1.03	3.44	S	0.96
There are capacity building activities for teachers, non-teaching staff and learners on DRRM.	3.36	S	0.91	3.46	S	0.98	3.39	S	0.96	3.41	S	0.95
The school ensures establishment of Early Warning System (e.g bulletin board for weather advisory, bell/siren emergency signal, and the like.)	3.29	S	0.94	3.49	S	1.00	3.34	S	1.03	3.37	S	0.99
Over-all	**3.62**	**VS**	**0.70**	**3.69**	**VS**	**0.73**	**3.59**	**VS**	**0.77**	**3.63**	**VS**	**0.73**

Legend:
4.51 – 5.00 = O (Outstanding) 1.51 – 2.50 = US (Unsatisfactory)
3.51 – 4.50 = VS (Very Satisfactory) 1.00 – 1.50 = P (Poor)
2.51 – 3.50 = S (Satisfactory)

This result implied that schools did not really implement the Early Warning System, they did not really capacitate teachers for teachers, non-teaching staff and learners on DRRM activities and they did not really maintain, disseminate, and post relevant and updated emergency hotlines in strategic locations throughout the school

4.2.2 Status of Disaster Preparedness of the Schools in Region 8 in terms of Personnel

Table 3: *Mean and Standard Deviation on the Perception of the Respondents on the Status of Disaster Preparedness of the Schools in Region 8 in terms of Personnel*

Personnel	Administrators			Teachers			Stakeholders			Grand Total		
	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd
Teacher's leadership is recognized during disasters.	3.77	VS	0.81	3.78	VS	0.90	3.71	VS	0.81	3.75	VS	0.84
There exist a good coordination between school and LGU in the DRRM Programs implementation.	3.70	VS	0.88	3.75	VS	0.96	3.62	VS	0.94	3.69	VS	0.93
Teachers and students are DRRM advocates.	3.74	VS	0.70	3.70	VS	0.92	3.59	VS	0.90	3.68	VS	0.84
There is a strong working unit or team culture in the school in the implementation of DRRM Program.	3.71	VS	0.81	3.67	VS	0.95	3.57	VS	0.92	3.65	VS	0.89
Teachers and students are well-prepared in any disaster in school.	3.65	VS	0.74	3.64	VS	0.94	3.60	VS	0.88	3.63	VS	0.85
School personnel are well-oriented of their roles during disaster.	3.55	VS	0.90	3.67	VS	0.94	3.56	VS	0.89	3.59	VS	0.91
Teacher and students are given freedom on DRRM matters they can control of.	3.55	VS	0.92	3.63	VS	0.91	3.55	VS	0.86	3.58	VS	0.90
There exist an organizational structure to consider in the discharge of functions/responsibilities during disaster.	3.57	VS	0.93	3.58	VS	0.97	3.42	S	0.96	3.52	VS	0.95
The teachers, students and external stakeholders attend DRRM trainings and seminars.	3.54	VS	0.90	3.50	S	0.99	3.50	S	0.97	3.51	VS	0.95
The flow of authority and coordination is clearly indicated in the organizational chart.	3.55	VS	0.95	3.53	VS	0.96	3.37	S	0.99	3.48	S	0.97
There is a sufficient number of school manpower to meet the demands during disaster.	3.39	S	0.86	3.41	S	0.97	3.41	S	0.88	3.40	S	0.90
Over-all	**3.61**	**VS**	**0.71**	**3.62**	**VS**	**0.78**	**3.54**	**VS**	**0.73**	**3.59**	**VS**	**0.74**

Legend:
4.51 – 5.00 = O (Outstanding)
3.51 – 4.50 = VS (Very Satisfactory)
2.51 – 3.50 = S (Satisfactory)
1.51 – 2.50 = US (Unsatisfactory)
1.00 – 1.50 = P (Poor)

This result suggested that team implementers and external stakeholders had a functional and vital role in the DRRM program implementation by means of working together and had good coordination in achieving common DRRM goals.

4.2.3 Status of Disaster Preparedness of the Schools in Region 8 in terms Budget

Table 4: *Mean and Standard Deviation on the Perception of the Respondents on the Status of Disaster Preparedness of the Schools in Region 8in terms Budget*

Budget	Administrators			Teachers			Stakeholders			Grand Total		
	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd
The school has plans and strategies to attract financial support from stakeholders.	3.12	S	1.01	3.22	S	1.01	3.26	S	0.98	3.20	S	1.00
Donation, solicitation and voluntary contributions are well-accounted for.	3.10	S	1.15	3.11	S	1.11	3.00	S	1.11	3.07	S	1.13
There is a school budget to finance DRRM programs and activities	3.14	S	0.91	3.07	S	1.03	2.96	S	1.05	3.06	S	1.00
Transparency is observed in the disbursement of DRRM funds.	3.03	S	1.27	3.03	S	1.16	2.96	S	1.12	3.01	S	1.18
Liquidation of funds are made after the DRRM project is done.	3.01	S	1.25	3.02	S	1.15	2.96	S	1.14	3.00	S	1.18
The financial support is posted to inform everybody of the program financial status.	3.06	S	1.28	3.02	S	1.11	2.93	S	1.11	3.00	S	1.17
The national government provide financial support for the DRRM Program implementation in school.	2.80	S	1.15	3.03	S	1.11	3.05	S	1.08	2.96	S	1.11
There is financial support from stakeholders for the implementation of DRRM in the school.	2.72	S	1.07	2.98	S	1.06	2.95	S	1.08	2.88	S	1.07
The budget allocation is sufficient to maintain the DRRM program in school.	2.67	S	1.12	2.86	S	1.08	2.81	S	1.11	2.78	S	1.11
School has income generating projects to support DRRM programs and activities.	2.58	S	1.13	2.82	S	1.09	2.76	S	1.08	2.72	S	1.10
Over-all	**2.92**	**S**	**0.96**	**3.02**	**S**	**0.94**	**2.96**	**S**	**0.94**	**2.97**	**S**	**0.95**

Legend:
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3.51 – 4.50 = VS (Very Satisfactory)
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1.51 – 2.50 = US (Unsatisfactory)
1.00 – 1.50 = P (Poor)

Table 5*: Mean and Standard Deviation on the Perception of the Respondents on the Status of Disaster Preparedness of the Schools in Region 8in terms Facilities and Equipment*

Facilities and Equipment	Administrators			Teachers			Stakeholders			Grand Total		
	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd
School personnel has the technical knowledge in handling the facilities and equipment.	3.16	S	1.09	3.04	S	1.10	2.99	S	1.11	3.06	S	1.10
There is an assigned in-charge of the facilities and equipment.	3.16	S	1.12	2.97	S	1.15	2.85	S	1.14	2.99	S	1.14
Procurement process of the facilities and equipment subscribes the COA rules and regulation.	3.12	S	1.21	2.96	S	1.15	2.82	S	1.16	2.96	S	1.17
Functional facilities and equipment is given priority during procurement.	3.01	S	1.18	2.88	S	1.12	2.80	S	1.13	2.90	S	1.14
Maintenance of the facilities and equipment is periodically done.	3.00	S	1.12	2.87	S	1.13	2.70	S	1.10	2.85	S	1.12
Purchase of facilities and equipment is made by one who has technical know-how.	2.90	S	1.13	2.89	S	1.14	2.77	S	1.13	2.85	S	1.13
There are available facilities/materials/supplies (like disaster kits, learning areas, etc.) during disaster.	2.88	S	1.08	2.89	S	1.11	2.72	S	1.11	2.83	S	1.10
Regular inventory of the facilities is done.	2.81	S	1.03	2.79	S	1.07	2.65	S	1.13	2.75	S	1.08
There is a storage room for the facilities and equipment.	2.77	S	1.11	2.73	S	1.11	2.64	S	1.11	2.71	S	1.11
There is a sufficient number of supplies and materials to be used during disaster.	2.62	S	0.94	2.74	S	1.05	2.65	S	1.10	2.67	S	1.03
Over-all	**2.94**	**S**	**0.97**	**2.87**	**S**	**1.01**	**2.76**	**S**	**1.01**	**2.86**	**S**	**1.00**

Legend:
4.51 – 5.00 = O (Outstanding)
3.51 – 4.50 = VS (Very Satisfactory)
2.51 – 3.50 = S (Satisfactory)
1.51 – 2.50 = US (Unsatisfactory)
1.00 – 1.50 = P (Poor)

The results only implies that schools had limited number of DRRM facilities/ materials/ supplies, storage room for facilities and inventory. Limited number of DRRM facilities and equipment could hinder in the full implementation of school DRRM program.

4.2.5 Status of Disaster Preparedness of the Schools in Region 8 in terms Monitoring and Evaluation

Table 5: *Mean and Standard Deviation on the Perception of the Respondents on the Status of Disaster Preparedness of the Schools in Region 8 in terms Monitoring and Evaluation*

Monitoring and Evaluation	Administrators			Teachers			Stakeholders			Grand Total		
	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd
There is a special committee that monitors the implementation of DRRM in school.	3.20	S	1.05	3.36	S	1.01	3.29	S	1.01	3.28	S	1.03
There is consultation with the division/district/region DRRM personnel for the improvement of DRRM implementation in school.	3.07	S	1.06	3.37	S	0.98	3.30	S	0.91	3.25	S	0.98
The records/report/output of the monitoring and evaluation are kept for consultation and reference.	3.13	S	1.07	3.36	S	1.01	3.23	S	1.01	3.24	S	1.03
The stakeholders are involved in the monitoring and evaluation of DRRM in school.	3.14	S	1.03	3.30	S	1.02	3.24	S	0.96	3.23	S	1.00
There is a monitoring on kinds and types of DRRM plans, programs and activities.	3.17	S	0.94	3.26	S	1.01	3.18	S	1.05	3.21	S	1.00
There is a monitoring on targets versus accomplishments.	3.25	S	1.02	3.22	S	1.00	3.16	S	0.98	3.21	S	1.00
The result of the DRRM monitoring and evaluation are used to make judgments that can directly or indirectly affect the school.	3.10	S	0.96	3.23	S	1.02	3.18	S	0.99	3.17	S	0.99
There are feedbacks from the teachers, students, parents and other stakeholders on whether the objectives/goals of the DRRM programs and activities are achieved.	3.16	S	0.98	3.18	S	1.02	3.14	S	1.03	3.16	S	1.01
Periodic evaluation and monitoring is done by the monitoring team.	3.12	S	1.06	3.21	S	1.02	3.16	S	0.97	3.16	S	1.02
There is a monitoring on fund utilization.	3.10	S	1.11	3.01	S	1.07	3.00	S	1.04	3.04	S	1.07
Over-all	**3.14**	**S**	**0.93**	**3.25**	**S**	**0.89**	**3.19**	**S**	**0.88**	**3.19**	**S**	**0.90**

Legend:
4.51 – 5.00 = O (Outstanding)
3.51 – 4.50 = VS (Very Satisfactory)
2.51 – 3.50 = S (Satisfactory)
1.51 – 2.50 = US (Unsatisfactory)
1.00 – 1.50 = P (Poor)

The result implied that there already exist a functional DRRM program in school being practices. These were evident on the existence of special committee that monitors

the implementation of DRRM in school, the existing consultation DRRM personnel for the improvement of DRRM implementation, and the evidence of recordings, report, output of the monitoring and evaluation whicha are kept for consultation and reference.

4.2.6 Overall Perception on Status of Disaster Preparedness of the Schools in Region 8 in terms Monitoring and Evaluation

Table 6: *Summary on Perception of the Respondents on the Status of Disaster Preparedness of Schools in the Region 8*

Items	Elementary School			Secondary School			Grand Total		
	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd
Objectives	3.68	VS	0.75	3.66	VS	0.73	**3.67**	VS	0.74
Projects & Activities	3.66	VS	0.75	3.65	VS	0.73	**3.65**	VS	0.74
Personnel	3.58	VS	0.78	3.63	VS	0.76	**3.60**	VS	0.77
Budget Allocation	2.92	S	1.00	3.08	S	0.86	**3.00**	S	0.93
Facilities & Equipment	2.79	S	1.04	2.93	S	0.96	**2.86**	S	1.00
Monitoring & Evaluation	3.19	S	0.91	3.26	S	0.87	**3.23**	S	0.89
Over-all	**3.30**	**S**	**0.76**	**3.37**	**S**	**0.71**	**3.34**	**S**	**0.73**

Legend:
4.51 – 5.00 = O (Outstanding)
3.51 – 4.50 = VS (Very Satisfactory)
2.51 – 3.50 = S (Satisfactory)
1.51 – 2.50 = US (Unsatisfactory)
1.00 – 1.50 = P (Poor)

The result implies that the respondents had the same perception on the Status of disaster preparedness of schools in Region 8in terms of objectives, projects & activities, personnel, budget allocation, facilities & equipment, monitoring & evaluation

4.3 Difference in the Perception of the Respondents on the Status of Disaster Preparedness of Schools in Region 8

Table 7: *Test of Significant Difference on the Perception of the Respondents on the Status of Disaster Preparedness of Schools in Region 8*

Aspects	F-value	df	p-value
Objectives	2.66 ns	2, 875	0.07
Projects & Activities	1.39 ns	2, 875	0.25
Personnel	0.97 ns	2, 875	0.38
Budget Allocation	0.50 ns	2, 875	0.60
Facilities & Equipment	1.34 ns	2, 875	0.26
Monitoring & Evaluation	0.69 ns	2, 875	0.50
Over-all	**1.19 ns**	**2, 875**	**0.30**

Legend:
** - Highly Significant at 0.05 level
* - Significant at 0.05 level
ns - Not Significant

The result implies that there was no significant difference on the perception of school administrators, teachers, and external stakeholders in status of disaster preparedness of the schools in Region 8 in terms of six (6) DRRM program components namely; objectives, projects & activities, personnel, budget allocation, facilities & equipment, and monitoring & evaluation.

4.4 Relationship in the Perception of the Respondents on the Status of Disaster Preparedness of Schools and the Profile

4.4.1 Significant Relationship on the Perception of the Respondents on the Status of Disaster Preparedness and the Profile in terms of Proneness to Disaster

Table 8*: Test of Significant Relationship on the Perception of the Respondents on the Status of Disaster Preparedness of the Schools in Region 8 and the Profile in terms of Proneness to Disaster*

Variables	r	Description	p-value
Typhoon/Tropical Storm	-0.110 ns	N	0.37
Floods/Flashfloods	0.152 ns	N	0.21
Landslide	0.113 ns	N	0.36
Storm Surge	0.302 ns	L	0.01
Tsunami	0.152 ns	N	0.21
Volcanic Eruption	(NR)		.
Severe Rainfall	0.164 ns	N	0.18
Fire / Wildfire	-0.060 ns	N	0.62
Terrorism / Arm Conflict	-0.051 ns	N	0.68
Pollution, Toxic Waste, Fumes	0.021 ns	N	0.86
Sinkhole	(NR)		.
Drought	0.093 ns	N	0.44
Thunderstorms and lighting	-0.056 ns	N	0.65
Tornadoes/ Buhawi	0.091 ns	N	0.46

Legend:
** - Highly Significant ±1.00 - (P) Perfect Relationship
* - Significant ±0.91 - ±0.99 - (VH) Very High Relationship
ns - Not Significant ±0.71 - ±0.90 - (H) High Relationship
NR - No Response ±0.41 - ±0.70 - (MR) Marked/Moderate Relationship
±0.21 - ±0.40 - (L) Low Relationship
0.00 - ±0.20- (N) Negligible Relationship

The overall result implied that the test of significant relationship on the perception of the respondents on the status of disaster preparedness of the Schools in Region 8 had "no significant relationship" to the profile in terms of proneness to disaster.

4.4.2 Significant Relationship in the Perception of the Respondents on the Status of Disaster Preparedness and the Profile in terms Facilities and Equipment for Disaster Response

Table 9*: Test of Significant Relationship on the Perception of the Respondents on the Status of disaster preparedness of the Schools in Region 8 and the Profile in terms Facilities and Equipment for Disaster Response*

Facilities and Equipment	r	desc	p-value
A gym & covered court	0.01 ns	N	0.96
Fire exits	0.19 ns	N	0.11
Fire extinguisher	0.20 ns	N	0.09
Search and Rescue Boats	0.09 ns	N	0.48
Sufficient No. of Comfort Rooms	0.19 ns	N	0.12
Temporary Learning Areas (TLA)	0.27 *	L	0.03
Hand-held communication radios (walkie-talkie)	0.16 ns	N	0.19
Source of sufficient, clean and potable water	0.23 ns	L	0.06
Life Vests/Jackets	0.09 ns	N	0.48
Back-up Generators	0.05 ns	N	0.67
Computers with Internet connection	0.19 ns	N	0.11
Land Vehicles	0.05 ns	N	0.69
Telephone & Cellphones	0.13 ns	N	0.28
DRRM kits (e.g. disaster kits)	0.22 ns	L	0.07

Legend:
** - Highly Significant ±1.00 - (P) Perfect Relationship
* - Significant ±0.91 - ±0.99 - (VH) Very High Relationship
ns - Not Significant ±0.71 - ±0.90 - (H) High Relationship
±0.41 - ±0.70 - (MR) Marked/Moderate Relationship
±0.21 - ±0.40 - (L) Low Relationship
0.00 - ±0.20 - (N) Negligible Relationship

The overall result implied that the test of significant relationship on the perception of the respondents on the status of disaster preparedness of the schools in Region 8 had "negative to low" significant relationship to the profile of the respondents in terms facilities and equipment for disaster response.

4.5 Problems Encountered by the Respondents on the Implementation of the DRRM Program

Table 10: *Mean and Standard Deviation on the Problems Encountered by the Respondents on the Implementation of the DRRM Program of Public Elementary and Secondary Schools in Region 8*

Problems	Administrators			Teachers			External Stakeholders			Over-All		
	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd	$\bar{x}$	desc	sd
Insufficient fund subsidy from DepEd for DRRM implementation in school	3.84	MFP	1.13	3.52	MFP	1.11	3.46	F	1.05	**3.61**	MFP	1.10
Limited financial support from the external stakeholders	3.78	MFP	1.17	3.52	MFP	1.12	3.45	F	1.13	**3.58**	MFP	1.14
Limited facilities and equipment of the school for DRRM implementation	3.55	MFP	1.14	3.33	F	1.17	3.32	F	1.13	**3.40**	F	1.15
Absence of modern technology needed for the implementation	3.59	MFP	1.23	3.27	F	1.16	3.35	F	1.17	**3.40**	F	1.18
Limited time of school personnel and external stakeholders for the DRRM implementation in school	3.32	F	0.96	3.15	F	1.10	3.18	F	1.03	**3.22**	F	1.03
Insufficient budget from MOOE to implement DRRM in school	3.20	F	1.18	3.09	F	1.18	3.14	F	1.12	**3.14**	F	1.16
No training provided for the DRRM personnel in school	3.25	F	1.10	3.05	F	1.20	3.11	F	1.17	**3.13**	F	1.16
Shortage of manpower.	3.06	F	1.22	3.02	F	1.13	3.12	F	1.14	**3.07**	F	1.17
Absence of Disaster preparedness guides and manuals	2.96	F	1.17	2.86	F	1.14	2.97	F	1.10	**2.93**	F	1.14
Poor information dissemination about DRRM	2.78	F	1.07	2.83	F	1.10	2.93	F	1.14	**2.85**	F	1.10
Lack of cooperation between and among school stakeholders and academic community	2.86	F	1.10	2.78	F	1.12	2.89	F	1.06	**2.84**	F	1.09
Absence of support/encouragement for the DRRM coordinators in the division and region	2.80	F	1.16	2.82	F	1.10	2.87	F	0.97	**2.83**	F	1.07
Poor communication and coordination on the part of the DRRM implementers	2.84	F	1.21	2.77	F	1.10	2.84	F	1.14	**2.82**	F	1.15
Absence of proper DRRM monitoring from the division personnel	2.75	F	1.09	2.77	F	1.11	2.87	F	0.99	**2.80**	F	1.06
No proper consultation with regards to DRRM implementation	2.80	F	1.08	2.74	F	1.13	2.84	F	1.01	**2.79**	F	1.07
Mismanagement of the DRRM Program and its funds	2.57	F	1.06	2.78	F	1.16	2.81	F	1.07	**2.72**	F	1.10
Limited knowledge of school head, teachers and external stakeholders in the implementation of DRRM in school	2.75	F	1.08	2.67	F	1.15	2.70	F	1.09	**2.71**	F	1.10
Pressure of political leaders in the DRRM implementation	2.64	F	1.20	2.65	F	1.13	2.80	F	1.08	**2.70**	F	1.14
Poor leadership and management	2.52	F	1.13	2.69	F	1.12	2.80	F	1.15	**2.67**	F	1.14
Delegation of DRRM responsibilities to incapable/incompetent personnel	2.58	F	1.08	2.61	F	1.09	2.72	F	1.00	**2.64**	F	1.06
Indifference of the school personnel and external stakeholders to the program	2.51	F	1.11	2.60	F	1.06	2.68	F	1.03	**2.59**	F	1.06
Lack of resources and manpower	3.17	F	1.16	3.07	F	1.07	3.17	F	1.12	**3.14**	F	1.12

Legend

4.51 – 5.00	=	MoFP (Most Felt Problem)
3.51 – 4.50	=	MFP (More Felt Problem)
2.51 – 3.50	=	F (Felt Problem)
1.51 – 2.50	=	LFP (Least Felt Problem)
1.00 – 1.50	=	NP (Not a Problem at All)

The result implied that there was really insufficient fund subsidy from DepEd for DRRM implementation in school, limited financial support from the external stakeholders, limited facilities and equipment of the school for DRRM implementation. However, the indifference of the school personnel and external stakeholders to the program is not really a problem, this suggest that school personnel and external stakeholders were familiar to the program. The DRRM team implementers were also DRRM responsibilities, capable and competent in their respective function.

5. Conclusions

Based on the findings, the following conclusions are made:

1. Schools in Region 8 were concluded prone to typhoon/tropical storm, floods/flashfloods, and severe rainfall. Schools only used telephone & cellphones, fire extinguisher, and computers as their common facilities and equipment used for disaster response of schools. All schools had that no available search and rescue boats, life vests/jackets, and land vehicles which are vital equipment for DRRM response.
2. There was minimal response on the "observance and establishment of Early Warning System", and "capacity building activities for teachers, non-teaching staff and learners on DRRM", and teachers' "maintenance, dissemination, and post relevant and updated emergency hotlines in strategic locations throughout the school". These activities are vital in ensuring a safe/prepared school environment during disaster as prescribed in the DRRM manual for DepEd. Disaster preparedness budget mostly came from stakeholders' donation, solicitation and voluntary contributions due to limited budget of DepEd. DRRM implementers little knowledge in handling DRRM facilities and equipment. However, it was found out that most schools had no available DRRM facilities/materials/supplies. DRRM monitoring and evaluation was done by special committee that monitors the implementation of DRRM in school through the consultation with the division/district/region DRRM personnel. Records/report/output of the monitoring and evaluation are kept.

The status of disaster preparedness of the public schools in in terms of objectives, projects & activities, and DRRM personnel were "very satisfactory". However, as to budget allocation, DRRM facilities & equipment, and monitoring & evaluation were only "satisfactory".

3. The over-all perception of the respondents on the aspects of the status of status of disaster preparedness described as "not significant". The result implied that there was no significant difference on the perception of school administrators, teachers, and external stakeholders in status of disaster preparedness of the public schools in Region 8 in terms of six (6) DRRM program components namely; objectives, projects & activities, personnel, budget allocation, facilities & equipment, and monitoring & evaluation.
4. As to relationship between the status of disaster preparedness of the Public Schools in Region 8 and the Profile in terms of Proneness to Disaster; it was concluded that status of disaster preparedness of the public schools in Region 8 has "no significant relationship" to the profile in terms of proneness to disaster: as to typhoon/tropical storm, floods/flashfloods, landslide, storm surge, tsunami, volcanic eruption, severe rainfall, fire / wildfire, terrorism / arm conflict, pollution, toxic waste, fumes, sinkhole, drought, thunderstorms and lighting, and tornadoes/ buhawi. The overall result concluded that the test of significant relationship on the perception of the respondents on the status of disaster preparedness of the Public Schools in Region 8 had "no significant relationship" to the profile in terms of proneness to disaster. As to the significant relationship in the perception of the respondents on the status of disaster preparedness and the profile in terms of selected variables; it was concluded that the status of disaster preparedness "no significant relationship" to the profile in terms of selected variables as to resource: no. of DRRM personnel; and team implementers profile as to: age, sex, relevant, training, experience as DRRM team member, and no. of other assignments.

However, as to MOOE allocation, it was concluded that that the test of significant relationship on the perception of the respondents on the status of disaster preparedness had "significant relationship" relationship to the profile in terms of MOOE allocation. This suggest that budget is really needed for effective Disaster preparedness.

As to the significant relationship in the perception of the respondents on the status of disaster preparedness and the profile in terms facilities and equipment. The status of disaster preparedness had "significant relationship" to the profile in terms facilities and equipment for disaster response, as to fire extinguisher. It was concluded that, although it had its availability do not affect status of Disaster preparedness, still was considered signification in school DRRM. Hence, every school should have fire extinguishers all the time that could be used in disaster response. The status of disaster preparedness of the public schools had "significant relationship" to the profile in terms facilities and equipment for disaster response, as to Search and rescue boats. It was concluded that, although it had its availability had only negligible relationship to status of Disaster preparedness, still was considered signification in school DRRM. Hence, it is important for search and rescue

operations in severe flooding. The status of disaster preparedness of the public schools had "significant relationship" to the profile in terms facilities and equipment for disaster response, as to temporary learning areas (TLA). It was concluded that, although it had its availability had only "low relationship" to status of Disaster preparedness, it was needed especially if classrooms were destroyed by the calamity. Hence, it is important that schools should have designated Temporary Learning Areas (TLA). The status of disaster preparedness of the public schools had "significant relationship" to the profile in terms facilities and equipment for disaster response, as to the source of sufficient, clean and potable water. It was concluded that, although it had its availability had only "low relationship" to status of Disaster preparedness, it was needed especially if primary source of water of the community were destroyed during water. School/community should away look for source of sufficient, clean and potable water to sustain life during disasters. The status of disaster preparedness had "significant relationship" to the profile in terms facilities and equipment for disaster response, as to the availability of DRRM kits. It was concluded that, although it had its availability had only "low relationship" to status of Disaster preparedness, it was needed emergency. In fact, DepEd had allocated funds ensuring that all school should have DRRM kits. The status of disaster preparedness had "no significant relationship" to the profile in terms facilities and equipment for disaster response, as to the availability of: sufficient no. of comfort rooms, gym & covered court, fire exits , hand-held communication radios, life vests/jackets , back-up generators, computers with internet connection, land vehicles, and telephone & cellphones. The overall result concluded that the test of significant relationship on the perception of the respondents on the status of disaster preparedness of the public schools in Region 8 had "negative to low" significant relationship to the profile of the respondents in terms facilities and equipment for disaster response.

5. It was concluded that there was insufficient fund subsidy from DepEd for DRRM implementation, there were also limited financial support from the external stakeholders, and there were limited facilities and equipment in schoolThe result also concluded that there were less indifference of the school personnel and external stakeholders to the program which is a "felt problem". There were also less "delegation of DRRM responsibilities to incapable/incompetent personnel", and less "shortage of manpower". The result further concluded that school had presence of vital resource like manpower and capable persons that would help in implementation of DRRM program in school. The only thing lacking or insufficient is the funding so that the status of DRRM implementation in school would be improved.

6. Recommendations

Based on the findings and conclusions, the following recommendations are made:

1. There is a need to intensify DRRM programs implementation in schools of Samar and even throughout the Philippines by ensuring that DRMM programs and activities specified/suggested by the DepEd would be properly implemented and also develop localized prevention, response and mitigation.
2. School heads should increase the number of DRRM personnel in school, if possible, all personnel should be part of the DRRM team implementers.
3. Due to fund allocation by DepEd for school Disaster preparedness, school fund raising and income generating projects.
4. Schools should increase the number of DRRM emergency response and rescue facilities and equipment like search and rescue boats, life vests/jackets, and land vehicles which were found to be unavailable in most schools.
5. School heads should capacitate teachers DRRM members to various DRRM training and capability building by sending theme to trainings.
6. Conduct benchmarking on effective DRRM in school.
7. DRRM members should have focus in doing their function as DRRM team members/implementers
8. School heads and DRRM team should conduct periodic review/revisit of the program objectives are regularly and posted DRRM programs, projects, activities and plans in strategic location.
9. Schools should always establishment of Early Warning System.
10. Conduct capacity building activities for teachers, non-teaching staff and learners on DRRM.
11. Maintains, disseminates, and posts relevant and updated emergency hotlines in strategic locations throughout the school.
12. Schools should increase the number of school DRRM manpower to meet the demands during disaster by making sure that all personnel are given DRRM functions/designations. This should not only limit to school personnel, internal and external schools' stakeholders should also be involved by developing programs that would encourage them to participate.
13. The flow of authority and coordination should be made clear in school. DRRM organizational chart/structure organizational structure should be made and posted in strategic location.
14. Schools should attract financial support from stakeholders to support Disaster preparedness through school alumni organization.
15. DRRM materials should be made available in schools by using available local raw materials.
16. Monitoring and evaluation on DRRM should always be conducted periodically and such data to generate knowledge that can directly or indirectly affect the school.
17. DepEd should have regular monitoring fund to ensure that its DRRM programs, activities and projects are being implemented.
18. The use of modern technology are needed for Disaster preparedness and improvement by asking support from private, local, national, and international organizations.

7. References

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Author Profile

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Output of the Study

Figure 3: *Cover page of the Output of the Study*