

Preparedness and Participation in Disaster Risks Mitigation among Public Elementary Schools of 3rd District in Zamboanga del Norte

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ABSTRACT

As reported in early days of November 2013, more than 6,000 people died, millions of people displaced and affected in the central part of the Philippines which were hit by Typhoon Yolanda which would enter into historical records and the minds of people in the Philippines. Thus, every individual must be aware of the importance of knowing the nature of this disaster. This study aimed to determine the natural and man-made disasters that occurred and experienced by the elementary schools' faculty, staff and the LDRRMC personnel of the selected areas of Leon B. Postigo, Godod, Salug, Liloy, Gutalac, Kalawit, Tampilisan and, Labason, Zamboanga del Norte. Level of preparedness and participation of these

municipalities are at risk by the Local Disaster Risk Reduction, and Management plans were determined as prescribed by the R.A.10121. Respondents considered by random sampling were from the local government units, particularly the faculty and staff of the elementary schools of the 3rd district. A self-made questionnaire-checklist was used in gathering the data. Findings disclosed that earthquake, flood, vehicular and fire incidents appeared as the most prevalent. They lacked monitoring and thorough implementations of the programs prescribed by the NDRRMC. They purchased some important facilities, however, some necessary equipment was not procured and people are less participative in mitigating disaster risk reduction.

Keywords — Natural Disaster, Anthropological Disaster, Preparedness, Participation

INTRODUCTION

This study provides information to the community people that when the BIG ONE comes, all must be ready and prepare on what to do.

In Vietnam, there is an estimated 70 percent of Vietnamese people that are exposed to risks from natural hazards-specifically in rural communities where livelihoods are most threatened. There is project aligned with the Vietnamese Government's new National Strategy for natural disaster prevention, response, and mitigation to 2020. The project has to try to help improve the disaster early-warning and forecasting capacity, especially to the authorities to improve the planning capability for integrated disaster risk management at the national, provincial and barangay level. It also provided safety of disaster hindrance structure including the safety of dams, flood control works, etc., to make them more resistant. (The World Bank, 2013).

In the study conducted by (Bayod, Abawag, Luardo, Padlan & Macias, 2016) the result revealed that the community must have a community alarm system, participation in drills, training, and seminars is mandatory, and listening to a warning from Community leaders and other government officials especially those that are in charge of disaster risk mitigation and also the people in the communities should have active participation during disaster preparedness and relief operation, and to utilize whatever previous traditional skills and practices that had employed which had been proven effective in preparing for disaster. Also, in the study conducted by Fajardo, (2013) wherein it clearly states that

the active involvement of provinces, municipalities, cities, and barangays for reducing and minimizing disaster risks are very significant. However, there are concrete challenges for these local governments to function commendably and efficiently.

On the discussion initiated by European initiatives on climate services (CS) and disaster risk reduction (DRR) in January 2018 on how the DRR community could be best served by new and emerging CS. Their aim in having their discussion was to identify defies and opportunities for the delivery of effective operational disaster risk management and communication informed by an understanding of future climate risks. (Street, Buontempo, Mysiak, Karali, Pulquério, Murray, & Swart, 2019)

The United Nations International Strategy for Disaster Reduction (UNISDR 2009) defines a disaster as: “A serious disruption of the functioning of the community or a society involving widespread human, material or environmental losses and impacts which exceeds the ability of the affected community to cope using only its resources.”

With the geologic location and physical characteristics of the Philippines, it is being considered as one of the most disaster-prone countries in the world. Disasters occurring in the country can be natural or human-induced, according to NDRRMC, 2011, as cited by Napere and Canencia (2013). Certainly, when there is a disaster that will strike in our area, children are the most vulnerable.

Norio, Ye, Kajitani, Shi and Tatano (2011) stated that there should be an urgent need for a highly collaborative framework based on which all available resources could be mobilized; a mutual assistance and rescue system against catastrophes among regions and countries based on international humanitarian aid.

The gap that happened is that Filipino citizen will not respond right away to the call made by the authorities if they will not see and experienced it personally. While in other countries, they were so very participative when it comes to disaster risk preparation.

This research work aimed to determine the level of school’s preparedness and participation in mitigating disaster risks among public elementary schools of the 3rd district in Zamboanga del Norte.

OBJECTIVES OF THE STUDY

The study determines the level of preparedness and participation in disaster risks mitigation among public elementary schools in the 3rd district of

Zamboanga del Norte. Specifically, the study sought to identify: (1) Prevalent disasters that struck the Third District of Zamboanga del Norte -natural and anthropological disasters (man-made) (2) Existing programs and activities employed and performed/done by schools in the 3rd District of Zamboanga del Norte in mitigating disaster risk (3) Preparedness and participation of schools under study.

FRAMEWORK

The study was anchored on the Vested Interest Theory (VI) and the Extended Parallel Process Model of Fear Appeals (EPPM) by Miller, Adame, and Moore (2013).

According to Miller (2013), Vested Interest (VI) theory and the Extended Parallel Process of Fear Appeals (EPPM) provide informative research for creating an effective disaster preparedness and social actions campaigns. The aim was to develop the Vested Interest (VI) theory scale for assessing individual awareness and vestedness relevant to disaster preparedness.

On the other hand, Drabek (2007) based on the Integrating Theory into Practical Emergency Management stated that to gain a greater sense of the value of the social science to emergency management, victims of a disaster are traumatized into nonparticipation, and incapable of caring for themselves. The research used, however, that in crisis, people generally “became the focus on loved ones and neighbors and became extremely creative in dealing with problems generated by a disaster.” From the onset of a crisis, people undertake a rescue, persists the injured, self-evacuate, and provide the existence of first responders. “Almost 90% of disaster victims are rescued by private individuals, not by public agencies.”

METHODOLOGY

Research Design

The descriptive – survey method of research was employed in this study. It used a self-made questionnaire – checklist as the main data gathering tools. Each item made by the researchers were then referred to expert (LDRRMC) for content validity. Observations, pictorials, and informal interviews were also employed to gather the data needed with the retrieval of the secondary data and documents about mitigation in disaster risk implementation. In getting the

respondents, the researchers employed random sampling. There were a total of one hundred ninety-six (196) respondents, twenty-four (24) principals, thirty-seven (37) LDRRMC Employees, and one hundred thirty-five (135) Teachers and Staff. Results of the study were then treated by using Frequency count, simple percentage, and weighted mean.

Research Site

The study was conducted in the municipalities of the 3rd District, Province of Zamboanga del Norte which was reported to have histories of disaster.

The province is situated in Northern Mindanao in the Zamboanga Peninsula. It is bounded on the north and west by the Sulu Sea, on the east by Misamis Occidental, and on the southwest by Zamboanga City and the southeast by Zamboanga del Sur and Zamboanga Sibugay. It is part of Region IX in the island of Mindanao. The schools who responded to this study are the elementary schools from Leon B. Postigo, Godod, Salug, Liloy, Labason, Gutalac, Kalawit and Tampilisan and the LDRRMO of the said districts. There were four (4) districts which were not included because of the safety in going there, and the peace and order are not yet stable.

Participants

The respondents of the study were the principals/school heads, faculty, and staff in the public elementary schools and LDRRMO of the 3rd District of Zamboanga del Norte.

Instrumentation

The research instrument was composed of six parts. Part I-school profile, Part II-type of disaster experienced, Part III-- the existing programs/activities implemented by the school relative to MDRMP, Part IV--Availability of Equipment, and, Part V-- level of Participation and –Part VI—suggestions.

Validation of Instrument

Content and face validity of the instrument, the researchers submitted the questionnaire to the local disaster management team for correction and enrichment since they are the authorized persons who are knowledgeable when it comes to disasters. Each item was checked and validated for relevance. The appropriateness of use and relevance of every item were assessed as the basis for the final drafting of the questionnaire before the final distribution to the respective respondents.

Ethical review was then sought from the 3rd district of Zamboanga del Norte school heads/principals and LDRRMO of the respective districts for clearance

to proceed with the actual data collection. Informed respondents affixed their signature on the communication letter as the basis of the researchers in distributing the questionnaire.

RESULTS AND DISCUSSION

Based on the results of the study, the most prevalent types of natural disaster is the earthquake. It is because the Philippines is located along a typhoon belt and the tectonic plates within the so-called Pacific Ring of Fire “moves every year” (Danganan, 2018). Its movement caused both earthquakes and volcanic eruptions, and most recorded earthquakes happened and where many faults are identified is also true in the 3rd District of Zamboanga del Norte.

. Therefore, there is a need for high collaboration of the government officials and the residence to prepare and minimize the destruction if the BIG ONE will come. It has relation to the report of (Norio, Ye, Kajitani, Shi and Tatano, 2011) wherein it stated that there should be an urgent need for a highly collaborative framework based on which all available resources could be mobilized; a mutual assistance and rescue system against catastrophes among regions and countries on the basis of international humanitarian aid.

For anthropological disaster, vehicular accident appeared as the most prevalent one followed by fire. In getting the prevalent types of disaster, the researchers used frequency count and ranking method. The vehicular accident is the most common accident that kills human lives, which are happening, especially in accidental prone pathways. It is because the 3rd district municipalities have only limited items of reflectors use on the roads. (See table 3.1).

Table 1. The Prevalent Types of Disaster Occurring in the 3rd District of Zamboanga Del Norte

	MUNICIPALITIES									Total	Rank
	A	B	C	D	E	F	G	H			
A. Natural Disasters											
Floods	12	13	12	15	16	41	10	31	150	2	
Typhoon	22	7	14	7	13	34	9	32	138	3	
Earthquakes	20	12	14	14	18	42	8	27	155	1	
Landslide	17	16	3	7	10	16	5	22	96	4	
Tsunami	0	0	1	1	7	0	0	0	9	7	
Volcanic Eruption	0	0	1	0	7	0	0	0	8	8	
Tornado	0	0	1	0	9	1	1	0	12	6	
Haze	0	0	0	0	8	23	0	2	33	5	
Heavy Rain	0	0	0	1	0	0	0	0	1	9	
B. Man-made											
Fire	21	8	14	7	19	42	15	25	151	2	
Extortion	1	7	2	1	5	14		21	51	6	
Rape	22	7	8	5	13	28	3	23	109	4	
Vehicular Accident	21	11	12	15	19	36	19	29	162	1	
Assault	0	9	0	3	5	19	4	12	52	5	
Battle	0	7	3	2	8	15		13	48	7	
Child Abuse	23	8	10	7	12	27	5	26	118	3	
Cyber crime	0	0	2	2	5	13	0	13	35	8	
PS.-Public Disturbance	0	2	0	0	0	0	0	0	2	9	

In terms of Programs/ Activities on Disaster Preparedness conducted/ implemented, the elementary schools in the 3rd district only implemented these programs twice a year. And some programs were only implemented once a year, and this was done by getting the weighted mean. These findings imply that the elementary schools in the 3rd district of Zamboanga del Norte lack the implementation of the programs mandated in the R.A. 10121. These findings are alarming because according to National Disaster Risk Reduction and Management Council (2015), the mentioned programs are mandated to be conducted to every schools and municipality as required projects and activities of every municipality. These schools might be oriented with seminars and drills on mitigating disaster risk reduction once a year, but they lack monitoring on the implementation of these programs. This has relation to the study conducted by (Bayod, Abawag, Luardo, Padlan & Macias, 2016) the result revealed that the community must have a community alarm system, participation in drills, training, and seminars is mandatory, and listening to a warning from Community leaders and other government officials especially those that are in charge of disaster risk mitigation and also the people in the communities should have active participation during disaster preparedness and relief operation, and to utilize whatever previous traditional skills and practices that had employed which had been proven effective in preparing for disaster. Also, the result was supported by the study conducted by Fajardo, (2013) wherein it clearly states

that the active involvement of provinces, municipalities, cities, and barangays for reducing and minimizing disaster risks are very significant. However, there are concrete challenges for these local governments to function commendably and efficiently.

Table 2. List of Programs/Activities Implemented By the Schools in the 3rd District of Zamboanga Del Norte

List of Programs/ Activities	MUNICIPALITIES OF 3 RD DISTRICT, ZAMBOANGA DEL NORTE															
	A		B		C		D		E		F		G		H	
	Mean	Dr	Mean	Dr	Mean	Dr	Mean	Dr	Mean	Dr	Mean	Dr	Mean	Dr	Mean	Dr
1. Conduct Disaster preparedness program	1.15	Lst.I	2.8	OI	3.2	OI	1.15	Lst.I	3.2	OI	3.15	OI	2.2	LI	3.9	AI
2. Training on rescue operation drill on disaster	1.15	Lst.I	1.8	LI	2.7	OI	1.1	Lst.I	2.7	OI	2.8	OI	2.1	LI	3.35	AI
3. Piercing action on emergency evacuation	1.15	Lst.I	1.45	Lst.I	2.45	LI	1.15	Lst.I	2.45	LI	2.45	LI	1.9	LI	3.85	AI
4. First aid drill	1.15	Lst.I	1.6	Lst.I	2.8	OI	1.1	Lst.I	2.8	OI	2.35	LI	1.9	LI	3.85	AI
5. Workshop on immediate response	1.3	Lst.I	1.65	Lst.I	2.55	OI	1.05	Lst.I	2.55	OI	2.1	LI	1.8	LI	3.9	AI
6. Update Whether forecast	1.2	Lst.I	2.8	OI	2.75	OI	1.15	Lst.I	2.75	OI	2.7	OI	2.15	LI	3.9	AI
7. Promote survival Technique	1.15	Lst.I	1.6	Lst.I	2.65	OI	1.15	Lst.I	2.65	OI	2.3	LI	1.9	LI	4	AI
8. Conduct Earthquake drill	1.15	Lst.I	1.9	LI	3.3	AI	1.15	Lst.I	3.3	AI	2.75	OI	2.25	LI	3.85	AI
9. Conduct Fire drill	1.15	Lst.I	1.75	LI	3.35	AI	1.1	Lst.I	3.35	AI	1.95	LI	2	LI	3.6	AI
Grand Weighted Mean	1.17	Lst.I	1.9	LI	2.9	OI	1.1	Lst.I	2.9	OI	2.5	OI	2.01	LI	3.8	AI

Legend:

Rating	Scale	Code	Description	Qualification
3.25 - 4.00	4	AI	Always Implemented	Four times a year
2.50 - 3.24	3	OI	Oftentimes Implemented	Three Times a year
1.75 - 2.49	2	LI	Less Implemented	Twice a Year
1.00 - 1.74	1	Lst I	Least Implemented	Once A year

In terms of Availability of Facilities and Equipment, first aid kit is the most available equipment that they have followed by flashlight while the spine board, power saw, and chain ladder is only limited in numbers. All municipalities failed to provide other important facilities as prescribed by the NDRRMC (2015) on the Minimum Requirement and standards for equipment such as the alternative sources of energy, public address system, pulling and lifting machines and safety full-body harness.

Table 3. Availability of Facilities and Equipment in the Schools and MDRRMC of the 3rd District of Zamboanga Del Norte

Facilities & Equipments	MUNICIPALITIES OF 3 RD DISTRICT, ZAMBOANGA DEL NORTE								
	A	B	C	D	E	F	G	H	Total
1.First Aid Kit	22	12	15	12	18	44	19	30	172
2. rope	21	13	13	5	16	31	15	24	138
3. Ambulance	21	12	15	6	14	16	13	10	107
4. Whistle	6	12	13	12	19	25	13	25	125
5. Reflector	0	3	2	6	3	0	4	2	20
6. Fire Extinguisher	5	6	12	7	10	8	14	8	70
7. Rubber boat	8	0	5	5	0	3	2	0	23
8. Fire truck	17	0	13	7	17	4	12	4	74
9. Life jacket	7	6	3	3	4	10	4	4	41

Based on the NDRRMC 2015

Based on the mean of each municipality, municipalities A, C, E & G are well participated in mitigating disaster risk reduction while municipalities B, D, F & H are less participated.

This implies that selected elementary schools in each municipality of the 3rd district of Zamboanga del Norte failed to meet the minimum requirement as per mandated by R.A.10121 that all schools are required to participate in all activities and programs on disaster risk mitigation. Every citizen must also respond to the needs of the times.

Table 4. Level of Participation in Mitigating Disaster Risk Reduction among the Elementary Schools of the 3RD District Zamboanga Del Norte According to Municipality

Level of Participation	MUNICIPALITIES OF 3 RD DISTRICT, ZAMBOANGA DEL NORTE															
	A		B		C		D		E		F		G		H	
	Mean	DR	Mean	DR	Mean	DR	Mean	DR	Mean	DR	Mean	DR	Mean	DR	Mean	DR
A. Immediate response during emergency calls	3.8	VWP	2.2	LP	3.2	WP	2.6	WP	3.8	VWP	2.2	LP	3.4	WP	2.7	WP
B. Apply first aid to the victims	3.85	VWP	2.1	LP	3.2	WP	2.3	LP	3.9	VWP	2.9	WP	3.1	WP	2.6	WP
C. Possessed rescue skills and first aid application	3.75	VWP	2.6	WP	3.1	WP	2.2	LP	3.8	VWP	2.5	WP	2.9	WP	2.1	LP
D. Bringing victims in critical conditions to the nearest hospital	3.5	WP	2.3	LP	3.2	WP	2.1	LP	3.5	WP	2.3	LP	2.9	WP	2.7	WP
E. Evacuate the victims to a safer place	3.45	VWP	2.2	LP	3.1	WP	2.1	LP	3.5	VWP	2.3	LP	2.9	WP	2.6	WP
F. Help save and secure lives and properties	3.3	WP	2.6	WP	2.8	WP	2.2	LP	3.3	WP	2.4	LP	2.8	WP	2.6	WP
G. Can provide emergency shelter to protect people from calamities	3.15	WP	2.4	LP	2.9	WP	2.2	LP	3.2	WP	0		2.9	WP	2.7	WP
H. Can Supply food and water to the victims of disaster	3.1	WP	2.2	LP	2.8	WP	2.7	WP	3.1	WP	2	LP	2.5	WP	2.5	WP
I. Can provide clothing to the victims of disaster	3	WP	2.1	LP	2.1	LP	2.2	LP	3	WP	2.1	LP	2.6	WP	2.9	WP
J. Can remove debris from collapse structure	3	WP	1.9	LP	2.9	WP	2.2	LP	3	WP	1.8	LP	2.2	LP	2.4	LP
K. Take violator into custody for investigation	2.95	WP	1.9	LP	3.1	WP	2.1	LP	3	WP	1.8	LP	2.3	LP	2.1	LP
Grand Weighted Mean	3.1	WP	2	LP	2.7	WP	2.1	LP	3.1	WP	2	LP	2.5	WP	2.3	LP

Legend:

Rating	Scale	Code	Description
3.25-4.00	4	VWP	Very Well Participate
2.50-3.24	3	WP	Well Participated
1.75-2.4	2	LP	Less Participated
1.00-1.74	1	LSP	Least Participated

CONCLUSIONS

The researchers concluded that the elementary schools in the 3rd district of Zamboanga del Norte are not exempted of both natural and human-made disasters. They have experienced earthquakes, floods, typhoons, vehicular accidents and fire. It is also safe to conclude that 3rd district of Zamboanga del Norte is lack of preparedness as to implementation and monitoring of the programs and activities prescribed by law and participation in mitigating disaster risk reduction. As to the availability of facilities and equipment, first aid kit is the most available equipment followed by flashlight while the spine board, power saw, and chain ladder are limited in numbers.

TRANSLATIONAL RESEARCH

The findings of the study may be best translated to various forms of activities wherein the community folks will be benefited. School heads, barangay leaders will be the initiator for information dissemination, if not, a further awareness campaign on the preparation and participation in disaster risks mitigation will be emphasized involving the community folks in any training and seminars in preparation for the BIG ONE.

RECOMMENDATIONS

The schools, LDRRMC, and PNP personnel should continuously conduct disaster risk management programs/activities, procure the necessary equipment and facilities in every public school to mitigate the natural and human-made disaster and closely perform monitoring procedures as to the implementations of the said programs. Community folks of the 3rd District in Zamboanga del Norte are encouraged to attend information drives on pre-cautionary measures about vehicular accidents and fire protection to properly address these kinds of disaster.

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