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RESEARCH ARTICLE

DISASTER MANAGEMENT RESPONSE AND EMERGENCY PREPAREDNESS OF BARANGAY SAN CRISTOBAL, SAN PABLO CITY, LAGUNA BASED ON THE LOCALIZED APPROACHES AND STRATEGIES TOWARD THE EXIGENCY PLAN: BASIS FOR TRAINING NEEDS ASSESSMENT

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Abstract

This study provides procedures and guidelines for the enhancement of the knowledge, skills, and training of the Barangay Officials and residents of Barangay San Cristobal, San Pablo City, Laguna on disaster management and emergency response based on the localized approaches and strategies toward the exigency plan. The study dealt with the assessment on the training education on disaster management response and emergency preparedness of Barangay San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward exigency plan in terms of a) disaster prevention and mitigation, b) disaster preparedness, c) disaster response, and d) disaster rehabilitation and recovery; the significant difference on assessment on the training education on disaster management response and emergency preparedness of San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward exigency plan in terms of a) disaster prevention and mitigation, b) disaster preparedness, c) disaster response, and d) disaster rehabilitation and recovery. Additionally, other trainings needed by the residents that must be considered are enclosed in the assessment. Analysis of Variance (ANOVA) was used to determine the significant differences to test the null hypothesis. The Barangay San Cristobal, San Pablo City, Laguna has disaster prevention and mitigation that are encompassed in their strategic plan and these are being instigated and practiced. On the other hand, Barangay San Cristobal is well prepared in ensuring the safety and security of the well-being including the properties. Under the implementation of disaster response, the Barangay San Cristobal is well stimulated to respond in case the emergency strikes. Lastly, the Barangay San Cristobal has their premeditated plan for their rehabilitation and recovery of the effect caused by the contingencies. There are minor damages they encountered but these are addressed immediately.

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Introduction:-**Chapter 1:****The Problem:****Background of the Study:**

Disaster cannot be forecasted; thus, preparedness is everyone's obligation. To minimize the impact of the disaster, planning and mitigation should be prepared, and this should be proactively done by the local communities, local governments, and other agencies concerned (State of California- Department of Parks and Recreation, 2016). In California, there are contingencies that gave a threat to people such as fires, floods, and earthquakes. Thus, identifying the potential risks, anticipating them, and proper preparation before, during, and after a disaster, could give an assessment on how to eliminate possible damages.

In Long Beach, California, the Government focuses on disaster preparedness by designing a website to provide its community with up-to-date information on how to prepare in the event of a disaster or a major emergency was also considered (Long Beach Official Website, n.d.). Meanwhile, well coordination to all offices concern must be considered towards disaster response (World Confederation for Physical Therapy, 2016). Furthermore, the study of Uluturk (2007) entitled "Local Administrations and Disaster Risk Management in Turkey," he suggested that a whole range of activities are therefore in need of being reorganized or rationalized into the tasks of urban planning in the dropping of disaster risks.

Some responses can help to deal with disasters just like to have a better response, proper coordination with the local government (D.M. DE Kruif, 2010). As Parwanto (2014) mentioned in his study entitled "Quantitative Study on Natural Disasters and Risk Management Policy," disaster may occur unpredicted that can give damage or impact to the community thus, disaster management strategies at each phase should be developed. Likewise, updating and developing Standard Operating Procedures and individual checklists are also needed to review procedures and related information before and after instigation, whether for drills or in an actual response. (Rodriguez, M. and Schuld, W., 2012).

Meanwhile, the Philippines was considered prone to natural disasters and included among the identified most disaster risk countries in the world (National Disaster Risk Reduction and Management Council, 2015). Some contingencies incurred in the Philippines are asserted by Jessie Wingard and Anne-Sophie Brändlin in their article entitled 'The village of Guinsaugon', that on February 17, 2006, on the southern part of Leyte people were killed due to the collapse of the entire mountainside and homes was wiped out when a rapid flow of mud made its way down the mountain slope. Another example on November 08, 2013, many towns and cities were affected by the typhoon Yolanda especially in the Visayas just in a few hours of the hit (National Disaster Risk Reduction and Management Council, 2015).

Some factors make the community vulnerable when typhoon or disaster may occur. These susceptible factors are an individual category of infrastructure that showed that facilities, utilities, and transportation organizations are less prepared. In gist, to overcome these contingencies, finding and identifying all susceptible factors can advance the resiliency of these critical infrastructures and institutions and may provide the basis to improve local policies toward disaster preparedness (Galindo, et.al, 2014).

It is also included in the National Disaster Risk Reduction and Management Plan (NDRRMP) 2011 to 2028, strengthening the capacity of offices involved such as the national government and the local government units (LGUs) together with partner stakeholders, to establish the disaster resilience of communities and to institutionalize arrangements and measures for reducing disaster risks, including projected climate risks and enhancing disaster preparedness and response capabilities at all levels are given priority.

On the other hand, in the province of Laguna, which is located mere 30 kilometers outside Manila, the capital of the Philippines, is likewise exposed to a multitude of hazards, like flooding (Lim, Anthony Chase, 2015). Also, all barangays are susceptible to ground shaking hazards with an earthquake that has an intensity of VII or above. However, ten (10) barangays with a total population of 46,768 are prone to be affected by volcanic hazard from Mt. Banahaw; while ten (10) barangays with a total population of 32,647 are prone to be affected by an earthquake induced landslide; and eight (8) barangays with a total population of 25,480 are prone to be affected by a rain induced landslide (CDRRMO Matrix, n.d.)

Based on the data garnered to the office of the City Disaster Risk Reduction Management Council (CDRRMC) showing the places in San Pablo City, Laguna that susceptible to Landslide which includes Artisan, Bautista, San Bartolome, San Cristobal, San Isidro, San Juan, San Marcos, San Mateo, Santiago II, and Sta. Catalina. While those places susceptible to rain that induce to landslide include the Atisan, Bautista, San Bartolome, San Cristobal, San Marcos, San Mateo, San Tiago II, and Sta. Catalina. On the other hand, those Barangay that are prone to be affected by Lahar and Pyroclastic flow from a volcanic eruption by Mt. Banahao are San Antonio I, San Cristobal, San Ignacio, Sto. Nino, San Diego, San Jose, San Vincent, Sta Elena, and Sta Isabel. Further, all barangays in San Pablo City are susceptible to Ground Shaking Hazard with an earthquake that has an intensity of VII or above. Under the data, the Barangay that is susceptible to all kinds of disasters mentioned above is San Cristobal.

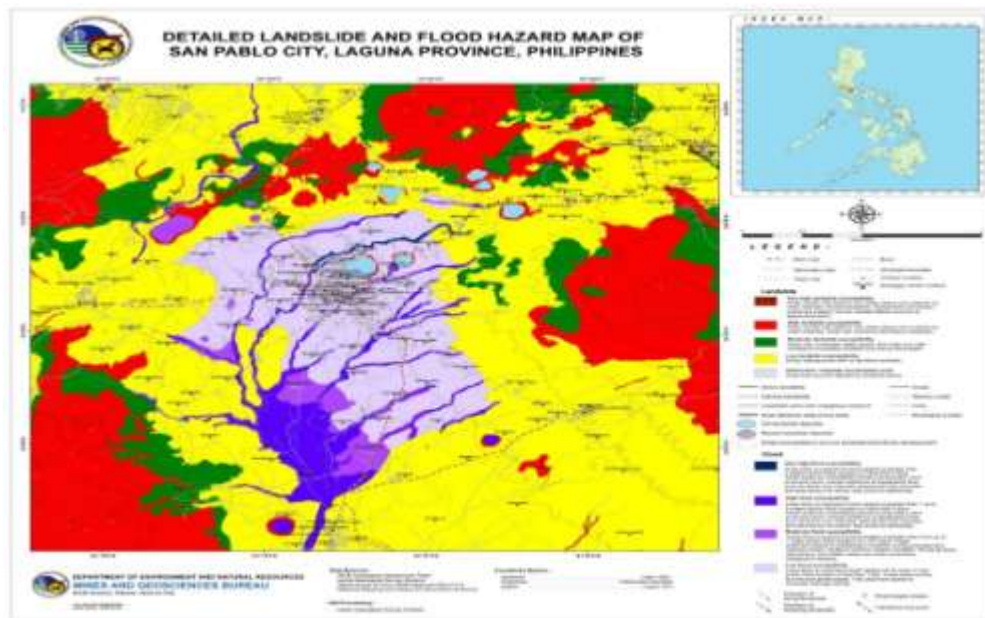


Figure 1:- Hazard Map of San Pablo City, Laguna.

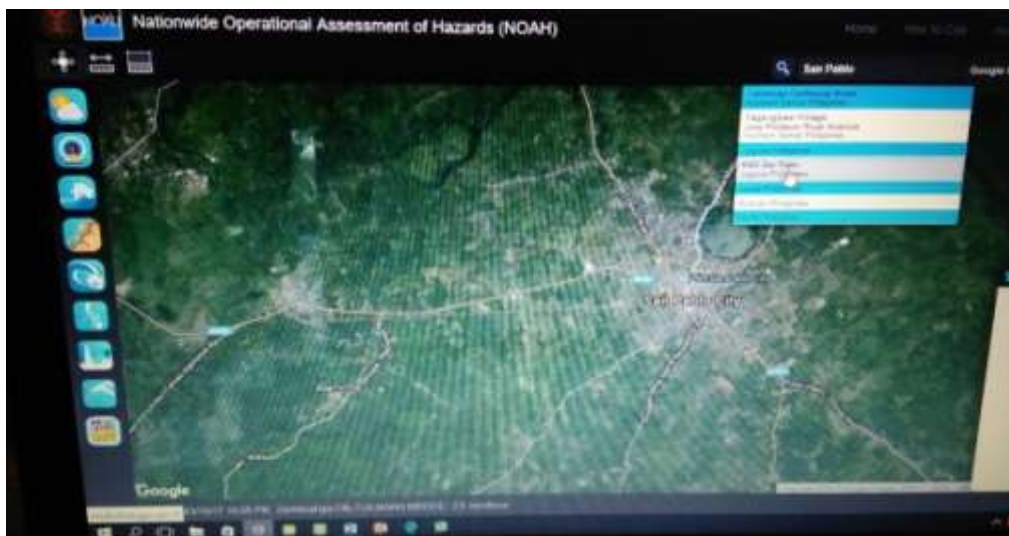


Figure 2:- Project Noah (Map of the San Pablo City).

Barangay San Cristobal, San Pablo City, Laguna for that matter is found to be vulnerable and susceptible to the above-mentioned disasters, thus, the main purpose of this study is to determine the knowledge of the community members in Barangay San Cristobal, San Pablo City, Laguna on disaster management response which will serve as

the basis for the formulation of a module for Training Education Disaster Management and Emergency Preparedness in the said area as part of the Extension and Training Services.

Theoretical Framework:

The study was anchored with the theories related to emergency preparedness. According to Heinrich and Lateiner (2002), domino safety theory is composed of five dominoes. The first domino represents a worker's lifestyle and personality. The second domino represents a worker's attitude, level of knowledge, physical and mental conditions. The third domino is unsafe acts and unsafe conditions. This represents a worker's behavior and unsafe job conditions. The fourth domino represents the unplanned event caused by an unsafe act or condition. The fifth domino represents someone getting hurt.

On the other hand, based on the book of Thomas E. Drabek and John Evans (2004), Normative Theories are very useful to emergency managers. These frameworks have been designed to specify actions that emergency managers ought to take. It is assumed that effectiveness can be based on their experiences.

Conceptual Framework:

The paradigm is guided by the causal operation as illustrated in figure 1. It composed of the input, process, output, and expected outcome. The input is as follows: assessment on disaster management response and emergency preparedness of San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan in terms of a) Disaster prevention and mitigation, b) Disaster preparedness, c) Disaster response; and d) Disaster rehabilitation and recovery.

The process covers the descriptive survey in assessing the disaster management response and emergency preparedness of San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward contingency plan.

The output embraces the assessment on disaster management response and emergency preparedness of San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan in terms of a) disaster prevention and mitigation, b) Disaster preparedness, c) Disaster response; and d) Disaster rehabilitation and recovery; significant difference on the assessment on disaster management response and emergency preparedness of San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan in terms of a) Disaster prevention and mitigation, b) Disaster preparedness, c) Disaster response; and d) Disaster rehabilitation and recovery; program may be proposed to enhance the disaster management response and emergency preparedness of Barangay San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward various contingencies.

The expected outcome consists of suitability, feasibility, and acceptability of the proposed to enhance the disaster management response and emergency preparedness of Barangay San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward various contingencies.

Statement of the Problem and Hypotheses:

The major purpose of the study was to assess the training education on disaster management response and emergency preparedness in San Cristobal, San Pablo City, Laguna.

Specifically, it sought to answer the following questions:

What is the assessment on disaster management response and emergency preparedness in Barangay San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan in terms of:

1. Disaster prevention and mitigation;
2. Disaster preparedness;
3. Disaster response; and
4. Disaster rehabilitation and recovery?

Is there a significant difference in the disaster management response and emergency preparedness in Barangay San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan in terms of:

1. Disaster prevention and mitigation;
2. Disaster preparedness;
3. Disaster response; and
4. Disaster rehabilitation and recovery?

Hypothesis:

There is no significant difference on assessment on the disaster management response and emergency preparedness in San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan in terms of:

1. Disaster prevention and mitigation;
2. Disaster preparedness;
3. Disaster response; and
4. Disaster rehabilitation and recovery.

What program may be proposed to enhance the disaster management response and emergency preparedness of Barangay San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan basis for training needs assessment?

What is the suitability, feasibility, and acceptability of the proposed plan to enhance the disaster management response and emergency preparedness of Barangay San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan?

Input	Process	Output	Expected Outcome
Assessment disaster management response and emergency preparedness of San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan in terms of: a. Disaster prevention and mitigation; b. Disaster preparedness; c. Disaster response; and d. Disaster rehabilitation and recovery.	A descriptive survey in assessing disaster management response and emergency preparedness in San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan.	Identified: 1. Assessment on disaster management response and emergency preparedness of San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan in terms of: a. Disaster prevention and mitigation; b. Disaster preparedness; c. Disaster response; and d. Disaster rehabilitation and recovery. 2. Significant difference on the assessment on disaster management response and emergency preparedness of San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan in terms of: a. Disaster prevention and mitigation; b. Disaster preparedness; c. Disaster response; and d. Disaster rehabilitation and recovery. 3. The program may be proposed to enhance the disaster management response and emergency preparedness of Barangay San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan as a basis for training needs assessment.	Enhancement of disaster management response and emergency preparedness in Barangay San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan. Suitability, feasibility, and acceptability of the proposed plan and recommendations.

Figure 3:- Research paradigm.

Chapter 2:**Design and Methodology:-****Research Design and Methodology:**

The study utilized a descriptive survey research method because the research is designed to assess the disaster management response and emergency preparedness of Barangay San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan. Inductive reasoning was also employed based on the observation and drawing from personal experience, documentary review, informal interview, and survey as suppletory to the data.

Population and Locale of the Study:

The respondents participated in this study, namely: Barangay officials and the residents of San Cristobal, San Pablo City, Laguna. The total number who answered the questionnaire objectively was eighty (80). The study covered Barangay San Cristobal, San Pablo City, Laguna because based on the data provided by the City Disaster Risk Reduction Management Council in San Pablo City, Laguna, the Barangay had experienced a flood, fire, lahar and earthquake outbreaks. Non-probability sampling was also used in this study.

Data Gathering Tool:

The questionnaire composed of two (2) parts that were administered to the respondents to address the statement of the problems. The formulation of the questionnaire was also based on R.A. 10121 or the Philippine Disaster Risk Reduction and Management (DRRM) and R.A. RA 9154, An Act Establishing a Comprehensive Fire Code of the Philippines, Repealing Presidential Decree No. 1185 and for Other Purposes. The validity of the questionnaire was established by the head of the CDRRMC in San Pablo City, Laguna.

Treatment of Data:

To analyze the responses regarding the assessment on disaster management response and emergency preparedness of San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan, the following scale was used:

Statistical Limit	Scale	Qualitative Description	Percentage	Interpretation
3.25-4.00	Superior (S)	Highly Implemented	90-99%	More than what is expected
2.50-3.24	Very Good (VS)	Implemented	75-89%	Just as expected
1.75-2.49	Fair (F)	Slightly Implemented	50-74%	Below than what is expected
1.00-1.74	Poor (P)	Not Implemented	1-49%	Not expected/ not at all

The scale was based on the study of Galino, R. (2002).

Meanwhile, to measure the degree of suitability, acceptability, and feasibility of the disaster management plan, the following scales were used:

Degree of Suitability;

Scale	Statistical Limit	Qualitative Description
4	3.25-4.00	Very Suitability (VS)
3	2.50-3.24	Suitability (S)
2	1.75-2.49	Inadequately Suitability (IS)
1	1.00-1.74	Not Suitability (NS)

Degree of Acceptability; and

Scale	Statistical Limit	Qualitative Description
4	3.25-4.00	Very Acceptability (VA)
3	2.50-3.24	Acceptable (A)
2	1.75-2.49	Inadequately Acceptable (IA)
1	1.00-1.74	Not Acceptable (NA)

Degree of Feasibility

Scale	Statistical Limit	Qualitative Description
4	3.25-4.00	Very Feasible (VF)
3	2.50-3.24	Feasible (F)
2	1.75-2.49	Inadequately Feasible (IF)
1	1.00-1.74	Not Feasible (NF)

Analysis of Variance (ANOVA). This was used to determine the significant differences to test the null hypothesis for problem 2.

Chapter 3:**Presentation, Analysis, and Interpretation of Data:**

This chapter shows the weighted mean of each indicator and its sub-indicators with their corresponding qualitative description, interpretation, and supporting statements that substantiated the findings.

Assessment on Disaster Management Response and Emergency Preparedness in San Cristobal, San Pablo City, Laguna Based on the Localized Approaches and Strategies Toward the Exigency Plan in terms of:

1. Disaster prevention and mitigation;
2. Disaster preparedness;
3. Disaster response; and
4. Disaster rehabilitation and recovery.

Disaster Prevention and Mitigation:

Table 1 shows the level of respondent's assessment of disaster management response and emergency preparedness toward various contingencies. Based on disaster prevention and mitigation, the total average weighted mean is 3.03 with a qualitative description of "Implemented" and interpreted as "just as expected". It signifies that the barangay officials and residents in Barangay San Cristobal, San Pablo City, Laguna are knowledgeable on the proactive measures that will suppress the upshot of disaster and they have disaster prevention and mitigation encompassed in their strategic plan and these are being instigated and practiced. Also, the barangay is practicing the formulation of disaster prevention and mitigation to avoid the tendencies of giving hazards and give risk to the residents.

Table 1:- Assessment on Disaster Management Response and Emergency Preparedness in Barangay San Cristobal, San Pablo City, Laguna Based on the Localized Approaches and Strategies Toward the Exigency Plan in terms of Disaster Prevention and Mitigation.

Sub-indicators	4	3	2	1	WM	QD	Rank
1. The residents know how to conduct several early warning systems.	25	41	14	0	3.14	I	1
2. The residents increase involvement with the CDRRMC, Red Cross, PNP, and BFP.	20	37	22	1	2.95	I	4
3. The residents know how to conduct hazard hunt including the neighborhood.	25	33	22	0	3.04	I	5
4. The residents know how to check the evacuation route maps posted in the vicinity.	29	30	18	3	3.06	I	3
5. The residents know how to check the fire suppression equipment.	17	38	24	1	2.89	I	7
6. The residents know how to assess the vulnerabilities and find solutions that address them.	26	31	23	0	3.04	I	5
7. The residents know how to assess culture and climate.	28	31	20	1	3.08	I	2
OVERALL WEIGHTED MEAN					3.03	I	

QD- Qualitative Description

HI- Highly Implemented

I- Implemented

The three two sub-indicators with a qualitative description of “Implemented” and interpreted as “just as expected” garnered the weighted mean of 3.14 and 3.08 respectively. These are conducting several early warning systems and assessing culture and climate. These signify that the Barangay San Cristobal is conducting several risks or hazard identification, vulnerability analyses, and hazard hunt within their vicinity. Additionally, the barangay is determining the area susceptible to landslide or flood that may cause a hazard to the residents.

However, the sub-indicator 5 that ranked as the lowest having the weighted mean of 2.89 is the checking of fire suppression equipment, despite its qualitative description as “implemented” and interpreted as “just as expected,” it has a repercussion that some residents in Barangay San Cristobal don’t know how to check fire suppression.

Disaster Preparedness:

Shown in table 2 is the respondent’s assessment of disaster management response and emergency preparedness in San Cristobal. The computed total average weighted mean is 3.02 that has the qualitative description of “implemented” with the interpretation of “just as expected.” It indicates that the barangay San Cristobal is well prepared to ensure the security and safety of the well-being including their properties and facilities in their premise.

Table 2:- Assessment on Disaster Management Response and Emergency Preparedness Barangay San Cristobal, San Pablo City, Laguna Based on the Localized Approaches and Strategies Toward the Exigency Plan in terms of Disaster Preparedness.

Sub-indicators	4	3	2	1	WM	QD	Rank
1. The residents know how to conduct researches on disaster management.	26	34	18	2	3.05	I	4
2. The residents know how to conduct various capacity building activities.	14	43	20	3	2.85	I	6
3. The residents know the procedures for disaster communication.	25	32	20	3	2.99	I	5
4. The residents know how to assess and identify vulnerabilities and capacities.	23	41	16	0	3.09	I	1
5. The residents know how to check and re-supplies first aid kits and emergency supplies.	25	36	18	1	3.06	I	3
6. The residents involved in drills in conformity with the preparation of disasters (Fire drill, earthquake drill, flood drill, and bomb drill).	27	34	18	1	3.09	I	1
OVERALL WEIGHTED MEAN					3.02	I	

QD-Qualitative Description

HI- Highly Implemented

I- Implemented

The residents know how to assess and identify vulnerabilities and capacities and the residents involved in drills in conformity with the preparation towards disasters (Fire drill, earthquake drill, flood drill, and bomb drill) are both received the highest weighted mean of 3.09 having the qualitative description of “implemented” and interpreted as “just as expected.” It connotes that the residents and barangay officials in Barangay San Cristobal know how to assess and identifies vulnerabilities that may compromise their safety. Also, drills are being conducted that give them knowledge on how to conduct hazard hunt including each neighborhood. As said by the counselor assigned on peace and order, they conducted an earthquake drill like the familiarity of the Duck Cover and Hold. However, according to the statement of one resident, drills that had been conducted were instigated in schools but not often in the community, therefore, not all are equipped with knowledge in consonance to the dos and don’ts when disaster strikes.

The residents know how to check, and re-supplies first aid kits and emergency supplies are ranked as second highest with a weighted mean of 3.06 and have the qualitative description of “implemented” interpreted as “just as

expected.” It signifies that the citizens in Barangay San Cristobal are also knowledgeable when in terms of preparation of supplies that are necessary when there is a disaster, and these are being instigated. As said by one of the respondents, they are equipped about the supplies that are essentials that must be prepared because they were being advised by their barangay officials, neighborhoods and sometimes they are being reminded by the media.

The following sub-indicators obtaining the lowest ranks are the residents know on how to conduct various capacity building activities and the residents know the procedures on disaster communication having the average mean of 2.85 and 2.99 respectively. Despite being the lowest in ranks, these are perceived by the respondents that have the qualitative description of “implemented” and interpreted as “just as expected.” It shows that the residents of San Cristobal are assessing any buildings including households pertaining to the vulnerability of hazards or that may compromise their safety. Nevertheless, as said by the respondent that was interviewed, since there are only a few buildings in their place, there are only a few of them are knowledgeable. He also mentioned that their households are the most they assessed. Additionally, some of the respondents chose one of the trainings they needed is the Household Assessment which therefore shows that they don’t have adequate knowledge of the said assessment.

On the other hand, incongruent to the procedures on disaster communication, it denotes that since the residents have cellphones and gadgets used for communication, they can cast throw their concerns via these gadgets. However, some residents don’t have a copy of a list of those who can be contacted in case of emergency or a list of those where they can give their concerns that must be addressed about disaster management, which makes the residents are having difficulties in times of uncontrollable circumstances such as typhoon, earthquake, and other contingencies. Further, there are not enough posted emergency calls even in the barangay hall or in its premises that supposedly prominent and visible to the residents. Some places are far-flung from where maps are posted that gives some of the residents unfamiliar to the safe places where they may proceed in case of emergency outbreaks.

While based on the researches on disaster management, it connotes that Barangay San Cristobal has its researches on disaster management that became useful and necessary for future references and will foster them to have a premeditation plan as a response towards contingencies. As stated by the respondent, the research conducted by the barangay is the assessment or hazard identification through the survey checklist and these are being placed in their data and being forwarded to the office of the City Disaster Risk Reduction Management Council.

Disaster Response:

Table 3 indicates the assessment on disaster management response and emergency preparedness in terms of disaster preparedness showed a total average weighted mean of 3.06 with a qualitative description of “implemented” and interpreted as “just as expected.” This signpost generally, the Barangay Cristobal is well stimulated to respond in case the emergency strikes. Having this preparedness will expedite them to have precedent over the strikes of disasters. Additionally, implementing these strategies can reduce the disaster’s impacts and anticipate the disaster impacts and plan response actions considering these anticipated effects. Coordination to all offices concern must be considered towards disaster response (World Confederation for Physical Therapy, 2016).

Table 3:- Assessment on Disaster Management Response and Emergency Preparedness in Barangay San Cristobal, San Pablo City Based on the Localized Approaches and Strategies Toward Various the Exigency Plan, Laguna in terms of Disaster Response.

Sub-indicators	4	3	2	1	WM	QD	Rank
1. The residents are participating in response operations.	32	36	11	1	3.10	I	1
2. The residents are improving their rescue operations knowledge.	14	53	11	2	2.99	I	4
3. The residents have a copy of the list of emergency calls.	25	37	17	1	2.94	I	6
4. The residents know the supplies and kits needed to be prepared.	28	39	12	1	3.00	I	3
5. The residents know the dos and don’ts in case of fire, earthquake, flood, landslide, lightning, and typhoon.	24	30	24	2	3.05	I	2
6. The residents have backup power, communications, and lighting	30	33	15	2	2.94	I	6

7. The residents know the emergency procedures for raising the alarm, evacuating personnel, and making the disaster site safe.	27	33	20	0	2.99	I	4
OVERALL WEIGHTED MEAN					3.00	I	

QD-Qualitative Description

HI- Highly Implemented

I- Implemented

The residents are participating in response operations showed to be the first highest with an average weighted mean of 3.10 with the qualitative description of “implemented” and interpreted as “just as expected.” These imply that the barangay officials and the residents are actively involved in the response operations ensuring all the residents are placed in a safe zone. During the interview with one of the residents, he mentioned that only the basic responses to recoup the person at risk are the precedents that they can instigate which are common to all but those situations that they are incompetent, they usually ask a request of trained and skilled personnel from different agencies such as City of Disaster Risk Reduction Management Council and Bureau of Fire Personnel.

The residents know the dos and don'ts in case of fire, earthquake, flood, landslide, lightning, and typhoon. This represents that the residents in San Cristobal are knowledgeable and can perform the procedures that will make themselves safe away from the danger that may cause by the disaster. However, one of the respondents said that in terms of countering some of the disasters such as when the situation becomes worst, it makes them difficult to deal with because of a lack of training and skills thus, they make them no option but to call BFP Personnel to deal with it.

The following sub-indicators show the lowest ranks but having the quality description of “implemented” and construed as “just as expected.”

The residents have a copy of the list of emergency calls and the residents have backup power, communications, and lighting both have an average weighted mean of 2.94. These infer that some residents of Barangay San Cristobal haveno copy of emergency calls, some have no available backup power supply,some of them have no communicationnor available generators when there is a power interruption.These instances hinder them to communicate with each other and to reach the offices to be contacted in case of an emergency.

Disaster Rehabilitation and Recovery:

Table 4 indicates the respondent's assessment of the training education on disaster management response and emergency preparedness in Barangay San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan in terms of disaster rehabilitation and recovery. Data shows the total computed average weighted mean of 3.07 with the qualitative description of “implemented” and construed as “just as expected.” It discloses that the Barangay San Cristobal can restore the damages and return to its normal through the services provided by the Barangay Officials as well as the volunteers from their residents. According to one of the residents and affirmed by the Barangay Officials that one typhoon that strikes them that caused them a high hazard is the Typhoon Glenda. Many households were affected but then after the strike, the Barangay officials and the residents worked together to restore the damages.

Table 4:- Assessment on Disaster Management Response and Emergency Preparedness in Barangay San Cristobal, San Pablo City, Laguna Based on the Localized Approaches and Strategies Toward the Exigency Plan in terms of Disaster Rehabilitation and Recovery.

Sub-indicators	4	3	2	1	WM	QD	Rank
1. The residents know how to integrate Disaster Risk Reduction into post-disaster recovery and rehabilitation processes.	31	34	15	0	3.20	I	1
2. The residents know how to incorporate Disaster Risk Reduction elements in the planning and management of human settlements.	19	46	13	2	3.03	I	4
3. The residents know how to Replace treated material in the refurbished site	20	41	18	1	3.00	I	5
4. The residents know how to discard items not	21	43	15	1	3.05	I	3

worth retaining and replace or re-bind items not justifying special conservation treatment.							
5. The residents know how to establish a program to restore both the disaster site and the damaged materials to a stable and usable condition.	28	33	17	2	3.09	I	2
OVERALL WEIGHTED MEAN					3.07	I	

QD-Qualitative Description

HI- Highly Implemented

I- Implemented

The following disaster rehabilitation and recovery received the qualitative description of “implemented” and interpreted as “just as expected” with a weighted mean of 3.20, 3.09, 3.05, 3.03, and 3.00 respectively. It reveals that the residents know how to integrate disaster into post-disaster risk reduction management, know how to restore the sites affected by the disaster, and recycle those materials that can be still used. Also, it appears that the residents know how to conduct damage assessment that those materials that can be recycled, materials that necessary to be discarded, and determines those that need replacement.

The Difference on the Assessment on Disaster Management Response and Emergency Preparedness in San Cristobal, San Pablo City, Laguna Based on the Localized Approaches and Strategies Toward the Exigency Plan in terms of:

1. Disaster prevention and mitigation;
2. Disaster preparedness;
3. Disaster response; and
4. Disaster rehabilitation and recovery.

Table 5 presents a significant difference in the assessment on disaster management response and emergency preparedness based on the localized approaches and strategies toward exigency plan in terms of disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation and recovery. Included here is the weighted mean of each indicator as to the result of the tabulation of data based on the answers or perception of the respondents in Barangay San Cristobal and its respective qualitative description.

Table 5:- Test of Significant Difference on the Assessment on the Training Education on Disaster Management Response and Emergency Preparedness Based on the Localized Approaches and Strategies Toward Various Contingencies in San Cristobal, San Pablo City, Laguna in terms of disaster prevention and mitigation, Disaster Preparedness, Disaster Response, and Disaster Rehabilitation and Recovery.

Disaster Prevention and Mitigation	Q D	Disaster Preparedness	Q D	Disaster Response	Q D	Disaster Rehabilitation and Recovery	Q D
3.14	I	3.05	I	3.10	I	3.20	I
2.95	I	2.85	I	2.99	I	3.03	I
3.04	I	2.99	I	2.94	I	3.00	I
3.06	I	3.09	I	3.00	I	3.05	I
2.89	I	3.06	I	3.05	I	3.09	I
3.04	I	3.09	I	2.94	I		
3.08	I			2.99	I		

ANOVA							
Source of Variation	SS	df	MS	F	P-value	F crit	
Between Groups	0.015683	3	0.005228	0.855779	0.479257	3.072467	
Within Groups	0.12828	21	0.006109				
Total	0.143963	24					

Since the P-value 0.47 is greater, therefore the null hypothesis is accepted. There is no significant difference in the assessment on disaster management response and emergency preparedness based on the localized approaches and strategies toward various contingencies in San Cristobal, San Pablo City, Laguna in terms of disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation and recovery.

**Suitability, Feasibility, and Acceptability of disaster Management Plan:
Suitability of the Disaster Management Plan:**

Table 6 shows the suitability of the disaster management plan in Barangay San Cristobal. The data shows that the overall weighted mean is 3.00 interpreted as “suitable.” It only shows that the disaster management plan is appropriate in their grounding for their Barangay’s emergency preparation.

Table 6:- Degree of Suitability of the Disaster Management Plan in Barangay San Cristobal.

Sub-indicators	Average Weighted Mean	Verbal Interpretation
1. The action plan is considered the policy guidance of the implementation.	3	S
2. The action plan is suitable for operational/administrative practices, procedures, and systems of the Barangay.	3	S
3. The action plan is suitable for operation with the vision, mission, goals, and objectives of the Barangay.	3	S
4. The action plan provides for reasonable preparatory time to enable the Barangay to make necessary adjustments for adoption and implementation.	3	S
5. The objectives and goals of the action plan are suitable since they can be achieved in a reasonable time frame.	3	S
TOTAL MEAN	3	S

During the interview with the Barangay Chairman and its counselors, this can be widely appropriate to the Barangay in no time, therefore the Barangay will have a concrete disaster team and will apply the formulated disaster management plan of this study.

Acceptability of the Disaster Management Plan:

Table 7 presents the degree of acceptability of the disaster management plan as perceived by the Barangay Officials and the residents. It appears in the data that the computed weighted mean is 2.76 interpreted as “Accepted.”

Table 7:- Degree of Acceptability of the Disaster Management Plan in Barangay San Cristobal.

Sub-indicators	Average Weighted Mean	Verbal Interpretation
1. The action plan has adequate provisions for cost-effectiveness.	2.8	A
2. The action plan has given due consideration to adequacy and completeness of facts presented, its logic, and orderliness in rendering unified, and coherent.	2.8	A
3. The action plan is practically enough to warrant adoption and implementation.	2.6	A
4. The action plan will benefit the department/ University in terms of efficiency of the teaching-learning process.	2.8	A
5. The action plan will benefit the department/University in the attainment of the vision, mission, goals, and objectives.	2.8	A
TOTAL MEAN	2.76	A

This signifies that the disaster management plan is widely accepted and applicable and this can help to address the problems and improves the lack of preparation for emergency preparedness.

According to the counselors assigned to peace and order, which have also partaken on the disaster risk reduction management that were interviewed, they said that the disaster management plan they scrutinized can benefit their respective Barangay and will benefit the organization to strengthen their disaster team. They also added that when

the above sub-indicators are adopted, it will oblige all personnel to work together and give priority in supplying the needs for disaster risk management.

Feasibility of the Disaster Management Plan:

Table 8 discloses the feasibility of the formulated disaster management plan. The data divulges that the computed weighted mean is 3.00 interpreted as “Feasible.” It implies that the disaster management plan is easily or conveniently implemented in the Barangay San Cristobal.

Table 8:- Degree of Feasibility of the Disaster Management Plan in Barangay San Cristobal.

Sub-indicators	Average Weighted Mean	Verbal Interpretation
1. Requirement and procedures, specific policies, and standards in the action plan is capable and be applied to the Barangay.	3	F
2. The action plan has the feature of being able to be implemented amidst the existing environment both internal and external to the Barangay.	2.8	F
3. The action plan entails budgetary funding which the institute appropriately can provide.	2.6	F
4. Manpower, logistics, and other resources of the Barangay can be allotted effectively to fit the requirements for the implementation of the action plan.	3.8	F
5. Organizational facilities or outside facilities for the utilization of the action plan.	2.8	F
TOTAL MEAN	3	F

However, the Barangay is encountering difficulty in their purchase request because of the unavailability of budget but they added that once the budget is released and gives priority on the emergency preparedness, proper implementation is no problem. They further avowed that the recommendation of this study will embrace the improvement of the implementation of their disaster risk reduction management.

As an additional part of the data gathering instrument is the training needed by the residents of Barangay San Cristobal, San Pablo City, Laguna. The trainings cited in the instrument are earthquake drill, fire drill, proper use of fire suppression, creation of disaster management plan, proper evacuation in case of emergency, basic first aid, and building safety or house safety assessment. As the aftermath, it appears that all the aforementioned trainings were considered by the residents. It only shows that this training will help the residents become more prepared and be more educated especially the respondents said that they have no enough training instigated in their Barangay.

Chapter 4:

Conclusion and Recommendation:-

Conclusions:

The Barangay San Cristobal, San Pablo City, Laguna has disaster prevention and mitigation that are encompassed in their strategic plan and these are being instigated and practiced. These are being implemented to have proactive measures to be taken before an emergency or disaster occurs to eliminate or reduce the impacts of disasters and the possible existence of hazards. Also, the prevention and mitigation may lessen the impact of the disaster if this will be ensued consequently and performed. Having Prevention plan may expedite the hazard identification by identifying the actual threats that may face by the residents and vulnerability assessment by evaluating the risk and capacity of residents to handle the consequences of the disaster. Nevertheless, some residents in Barangay San Cristobal don't know how to check fire suppression because not all residents have fire suppression. Additionally, some residents are not being oriented as to the matters to be remembered in checking fire suppression.

On the other hand, Barangay San Cristobal is well prepared to ensure the safety and security of the well-being including its properties. But despite the implementation of emergency preparedness, there are still residents who are not participating during the drills and some of them who don't know what to do in case there are emergency

outbreaks. Also, not all are knowledgeable about what needs to be assessed during the household assessment, in which some residents chose that household assessment to be included also in their training. Furthermore, there are residents who don't have a copy of the list of those who must be contacted in case of emergency or a list of those where they can give their concerns about overcoming or addressing the disaster. Likewise, there are not enough posted emergency calls that should be visible to the Barangay. Some places are far-flung from where maps are posted that make the residents unfamiliar to those safe places they may proceed.

Under the implementation of disaster response, the Barangay San Cristobal is well stimulated to respond in case the emergency strikes. There are available teams and volunteers that are ready to help in case of emergency outbreaks. The Barangay officials and the residents are actively involved in the response operations ensuring all the residents are placed in a safe zone but then, only the basic responses to rescue the person at risk are the precedents that they can instigate.

Lastly, the Barangay San Cristobal has their premeditated plan for their rehabilitation and recovery in cases that they have losses and damages. There are minor damages they had encountered but these were addressed immediately.

The respondents have the same assessment on the training education on disaster management response and emergency preparedness in San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan on disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation and recovery since these are all implemented. No variations found as to how these four thematic emergency preparations are implemented.

The disaster management plan is widely suitable, acceptable, and feasible in San Cristobal, San Pablo City, Laguna disaster management response, and emergency preparedness based on the localized approaches and strategies that will address various contingencies. However, there is difficulty in purchasing supplies because of the unavailability of the funds, thus, it defers them to fully implement the proposed action plan enclosed herein.

Recommendations:-

1. The Barangay Chairman in coordination with the Bureau of Fire Protection will conduct a seminar on Fire suppression for the residents to become familiar and knowledgeable about how these fire suppression equipment are being operated. The barangay chairman with his personnel will forward the information through letter and oral dissemination to the residents about the conduct of the seminar training. The Barangay Chairman may tap the Laguna State Polytechnic University-San Pablo City Campus for the processing of the training to be conducted as part of the partnership on disaster risk reduction management.

On the other hand, the disaster team will have to include in their activities the conduct of drills. To conduct drills, the disaster team with duly approval of the Barangay Chairman will have to coordinate with the BFP for the fire drill, PNP for the bomb drill, CDRRMC for the conduct of disaster management drills. The disaster team will have to conduct orientation and drills, and these will have to be monitored, timed, and enhanced.

Under the implementation of disaster response, the Barangay Chairman must have to include in their request for the training to be conducted by the Bureau of Fire Protection and as well as the CDRRMC about the matters needed to be considered during the rescue and retrieve operation. Also, for easy communication, the Barangay Chairman must have to direct his personnel to layout a tarpaulin containing the list of emergency calls that can be contacted and this must be posted to several areas within their premises that are visible to the residents.

Lastly, Barangay San Cristobal must always have alternative plans that will address the possible impacts of the disasters based on the assessment conducted in their premises and must always follow-up their purchase request necessary for emergency preparation.

2. The implementation of disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation and recovery be continued to fully implement by Barangay San Cristobal, San Pablo City, Laguna.

3. The Barangay Officials will have to work together to enhance the implementation of emergency preparedness. There is a need to have benchmarking and adaptation of other's strategies and programs if these are available and applicable.

4. The Team Leader of the disaster unit and its members and volunteers will have to work together to have a strong force. They have to divide themselves based on the wide area of the Barangay. Assessment is needed using a checklist to find vulnerabilities and conduct a hazard hunt including the neighborhoods and these will have to be addressed immediately.

Also, they have to set the orientation to the residents regarding disaster management that are mandatory for them because they will become the allies in case of emergencies, preparation of emergency plans, and probing any that can give hazards in their area.

5. The Barangay Chairman and its working force must have to give attention to the delay of the purchase request. The whelms on the procedures of request in releasing of the items must be transparent to all employees. The personnel in the supply office will have to give attention to the items requested needed for the preparation of an emergency.

6. For full implementation of emergency preparedness, the Barangay Chairman will have to identify disaster team spearheaded by personnel who knows risk reduction management. The appointed team leader will have to create a team organization with hierarchy in-charge for disaster management. They have to base on the Incident Command System and conduct benchmarking to the other Barangay that has good disaster management organization for the empowerment of their consortium and their improvements. Allowing the disaster teams to attend seminars, conferences, and training in conformity with disaster risk reduction management is highly commendable.

7. The result of this study will be furnished to the Barangay so that it will give an insight to them to raise the full implementation of having Localized approaches and strategies on Disaster Management Plan and adopt the recommendation and action plans that are applicable to them.

A Proposed Action Plan for the Enhancement of the Training Education on Disaster Management Response and Emergency Preparedness in San Cristobal, San Pablo City, Laguna Based on the Localized Approaches and Strategiestoward the Exigency Plan

Rationale of the Plan:

The Barangay plays a vital role to make its citizens safe and secure and should give education to their residents about the matters that should be considered to deal with various disasters. However, recent experiences with natural disasters and the threat of pandemic flu demonstrate the need for the barangay to be prepared for all-hazard crisis possibilities. Schools that are covered by the Barangay can be especially susceptible to crises, so many emergency officials make it a priority to provide school officials and teachers with the information they need to be prepared for an emergency.

Therefore, the Barangay plays a particularly essential role during the impact, emergency phase, risk reduction strategies, preparedness, and mitigation.

Vision of the Plan:

To globally enhance the training education on disaster management response and emergency preparedness based on the localized approaches and strategies toward the exigency plan in San Cristobal, San Pablo City, Laguna by developing and empowering them to comply the necessary emergency preparations as a response toward various contingencies.

General Objective of the Plan:

The plan is promulgated to prescribe the guidelines for the conduct of activities for barangay and its citizens to come up with a well-founded preparation of disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation and recovery.

Situation Analysis:

The assessment showed the inaccessible of the hazard map. Also, to ensure the familiarization of the procedures toward emergencies, there is an inadequate number of LED TV's installed in the barangay where the TV is only available inside the office.

Further, the availability of the Incident Command System in partnership with the other Agencies to respond to expedite the emergency operation is not established.

Furthermore, the formulation of survey-checklist use to identify hazards and vulnerabilities.

Responsibility and Implementation:

For the enhancement of the training education on disaster management response and emergency preparedness in Barangay San Cristobal, San Pablo City, Laguna based on the localized approaches and strategies toward the exigency plan, the following will have to be employed: a) the Team leader of the disaster team will have to identify the hazards/potential hazards and these will be included in their report and be forwarded to the office of CDRRMC for appropriate action, b) the Team Leader and its members will have to work together to request the availability of Led TVs to be installed in the buildings showing only the proper procedures in responding contingencies, c) the Barangay Chairman will have to launch an Incident Command System linking with the BFP, PNP, CDRRMC, Red Cross, DENR and DOST, d) the disaster team of the barangay will have a survey-checklist use to identify hazards and vulnerabilities and remarks are given based on its degree of action to be taken.

Summary of the Proposed Action Plan:

Table 5 shows the Proposed Action Plan containing the areas of concern, Objective, Strategy, Time Frame, Responsible Agency, and Expected Output. The area of concern contains the issues that affect the preparation of emergency plans and strategies. Specific objectives include each aim for each area of concern. The activity/ program includes what to be done. Responsible persons are implementers. The time frame showed when and how many hours it should take place. The expected output is shown what will happen after the strategies are met.

Proposed Action Plan to Enhance the Training Education on Disaster Management Response and Emergency Preparedness in San Cristobal, San Pablo City, Laguna Based on the Localized Approaches and Strategies Toward the Exigency Plan:

Area of Concern	Objective	Strategy	Time Frame	Responsible Agency
Accessibility of Hazard Map	The Project Noah is updated and known to the institutions and community	The Team leader of the disaster team will have to identify the hazards/potential hazards, and these will be included in their report and be forwarded to the office of CDRRMC.	Continuous Monitoring	Barangay Officials
Availability of Led TVs in the barangay	The citizens will familiar with under the proper procedures in responding to earthquakes, floods, fire, lightning, and landslide.	The Team Leader of and Environment Management Office will work together to request the availability of Led TVs to be installed in the buildings showing only the proper procedures in responding contingencies.	Continuous monitoring	Barangay Officials
Incident Command System	There is an available disaster team with trained personnel linked with the other agencies that are ready to respond and help in the preparation for institutionalizing emergency preparedness.	The Barangay Chairman will have to launch an Incident Command System linking with the BFP, PNP, CDRRMC, Red Cross, DENR, and DOST.	Upon effectivity onwards	BFP, PNP, CDRRMC, Red Cross, DENR and DOST, Barangay Officials
Hazard Identification	The identified hazards and vulnerabilities are given appropriate action.	The disaster team of the barangay will have a survey-checklist use to identify hazards and vulnerabilities and remarks are given based on its degree of action to be taken.	Continuous compliance	Barangay Disaster Team
Continuous	The Disaster team and	The chairman must coordinate with the	Every	Barangay

Life Learning on disaster risk reduction management	the citizens are equipped with knowledge on disaster risk reduction management	City Disaster Risk Reduction Management Council for the conducting seminar on disaster risk reduction management.	quarter	Chairman CDRMC
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