Disaster Preparedness of Higher Education Institutions in Daet, Camarines Norte

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ABSTRACT: Disaster comes to our lives and communities when we least expect it. The current study focuses on the disaster preparedness of the higher education institutions (HEIs) in Daet, Camarines Norte along with the different phases of disaster management. This study included a total of 472 respondents composed of administrators, faculty, and students. In terms of human resources, there is an HEI that has the entire School Disaster Risk Reduction Management (SDRRM) Team makeup, whereas other HEIs lack some of the SDRRM Team composition. As to non-human resources, most of the equipment was available most of the school while a few in some schools. As to the level of disaster preparedness, all the HEIs were moderatelyprepared.The most common problem identified in the implementation of disaster management programs by the HEIs was the lack of funds to support disaster management programs.

KEYWORDS: Disaster Preparedness, Disaster Risk Reduction Management, HEI, Problems Encountered, Philippines

I. INTRODUCTION

Natural disasters can strike anywhere, destroy property, and endanger lives. Nowadays, disasters have been a major problem that everybody is facing – causing disruptions in communities, hampering their growth and development, and bringing about unimaginable damages. A disaster is like a disease that spreads and affects anyone vulnerable. When a disaster strikes, nobody can hide from it; nobody can be excused from its adverse effects.In the event of a natural disaster, it is well recognized that children are the ones who suffer the most. The earthquake in Haiti killed almost 38,000 students. Nearly 17,000 students died in Pakistan's 2005 earthquake, which caused the collapse of over 10,000 schools. Both states lacked disaster risk reduction (DRR), demonstrating that the lack of DRR-friendly schools increases disaster casualties and makes recovery far more difficult and time-consuming (Enterprise Risk Management Academy, 2010-2017). Another example is the earthquake that struck Sichuan, China on May 12, 2008, during school hours. The 7.9 magnitude earthquake killed 87,000 people, including at least 5,335 students. It is estimated that approximately 6% of the victims were students. More than 7,000 school buildings collapsed and heaped upon children and teachers, according to a Chinese government media report. Surprisingly, many of the structures surrounding the schools remained standing. Parents of victims claimed that there was corruption in the school building construction procurement process and that the poor quality of building materials was to blame for the school buildings collapsing during the earthquake (Consortium for Disaster Education Indonesia, 2011).

In the Philippine context, the destructions brought about by the series of typhoons that swept the country in 2006 resulted in damage to 5,600 schools in Southern Luzon with an estimated cost at about PHP 3.1 billion and affected about 8 million school children in both elementary and secondary schools (Disaster Risk Reduction Resource Manual, 2008). These tragic coincidences prompted educational authorities to draft and adopt the Safer Schools Resource Manual, which instructs school officials, administrators, teachers, and, eventually, students on what to do before, during, and after a hazard strikes to minimize its devastating impact and damages. The safety of schools is critical, and Disaster Risk Reduction strives to reduce the vulnerability to catastrophes and their impact on schools. It helps teachers and children prepare for probable calamities, minimizing the severity of the disaster. If students can pass on their knowledge to family members, it becomes common information, and the community can prepare as well.

The implementation of the National Action Plan for Disaster Risk Reduction, which is stated in Priority 5 of the Hyogo Framework for Action (HFA) 2005-2015: Strengthening Disaster Preparedness for Effective Response at All Levels, is a realization of the National Action Plan for Disaster Risk Reduction. Aside from that, this core concept reflects Priority 3: Using Knowledge, Innovation, and Education to Build a Culture of Safety and Resilience at All Levels in the educational context of disaster risk reduction. Republic Act (RA) No. 10121, specifically Section 2 thereof, states that it shall be the duty of the State to: "Develop, promote, and implement a comprehensive National Disaster Risk Reduction and Management Plan (NDRRMP) that aims to strengthen the capacity of the national government and the local government units (LGUs), together with partner stakeholders,

to build 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…". Following the HFA, the Philippine government has implemented RA No. 10121, the "Philippine Disaster Risk Reduction and Management (DRRM) Act of 2010," which requires all national government agencies to institutionalize disaster risk reduction and management policies, structures, coordination mechanisms, and programs with ongoing budget appropriation from national to local levels.Furthermore, it is stated in Section 1 Rule 10 of the Implementing Rules and Regulations (IRR) of RA 10121, the integration of DRRM into school curricula, that the Commission on Higher Education (CHED), and the Technical Education and Skills Development Authority (TESDA), in collaboration with the Office of Civil Defense (OCD), the National Youth Commission (NYC), the Department of Science and Technology (DOST), and the Department of Defense (DoD), and the Department of Education (DepEd) shall incorporate disaster risk reduction and management education into secondary and tertiary school curricula, including the National Service Training Program (NSTP), whether private or public, including formal and non-formal, technical-vocational, indigenous learning, and out-of-school youth courses and programs, including formal and non-formal, technical-vocational, indigenous learning, and out-of-school youth courses and programs (IRR of RA 10121).

Using this RA as a legal framework, the DepEd formed the DepEd DRRM Core Group, which is made up of Central Office Key Officials, to discuss DRRM and Education in Emergencies (EiE) issues, recommend policy actions, and propose programs and projects that will mitigate and reduce the impact of disasters on DepEd teaching and non-teaching personnel or staff, learners, and properties. As a result, the Department of Education (DepEd) issued DepEd Order (DO) No. 50, s. The Disaster Risk Reduction and Management Office (DRRMO) was established in the School in 2011. (DepEd Order No. 50, s. 2011).Although disaster risk reduction and management have been integrated into the education sector, it is still necessary to assess whether schools are adhering to existing policies, programs, and guidelines to enhance disaster preparedness and resiliency. As a result, good preparedness decreases vulnerability, raises mitigation levels, permits quick and effective disaster response, minimizes disaster recovery time, and boosts community resilience.

Disasters can happen at any time and in any location. If the required precautions are not taken, it can result in irreversible damage to life and property. This can bring out both the best and worst in people. How action is done has a big impact on how individuals react to the situation. As a result, Disaster Risk Reduction and Management are required (DRRM). Daet, Camarines Sur is, however, not excused from the effects of the disaster. The town is the second smallest municipality in Camarines Norte in terms of land area. As per DENR – Land Management Bureau certification dated September 19, 2008, its total land area is 4,600 hectares. (46 sq. kilometers), politically divided into 25 barangays. In general, Daet is characterized by its plains or flatlands making it vulnerable to floods and other calamities that may occur. It has no mountains and valleys. Its average elevation is about ten (10) meters above mean sea level. Daet belongs to a type II climate with no dry season and with a very pronounced maximum rain period that occurs from November to January (LGU-Daet, Camarines Norte - PSA- NSCB Bicol Region**)**. In Daet, Camarines Norte, the disaster preparedness practices are not so evident in the schools. As a result, the researchers chose to undertake this study to analyze the level of disaster preparedness of Daet's higher education institutions, as well as the problems encountered in putting disaster preparedness programs in place. The researchers then sought to (a.) determine the human and non-human resources available in disaster preparedness among the higher education; (b.) determine the level of disaster preparedness of the higher education institutions in Daet, Camarines Norte along with Mitigation, Preparedness, Response, and Recovery; and (c.) identify the problems encountered in the implementation of disaster preparedness programs in the higher education institutions in Daet, Camarines Norte.

II. METHODOLOGY

The descriptive method was used to determine and describe the disaster preparedness of higher education institutions in Daet, Camarines Norte, as well as its structure in terms of disaster management, disaster preparedness level, and disaster preparedness problems. Also, the evaluative method was employed since some records on file of the different HEIs were scrutinized to determine the existence of the human and non-human resources. However, the adequacy of the human and non-human resources was not further identified since it only determines the availability. The respondents of this study (Table 1) were the higher education institutions in Daet, Camarines Norte that were represented by their administrators, members of the faculty, and students. They are the ones involved in school-based disaster risk reduction management. The student-respondents were selected through the purposive sampling technique and according to Leedy and Ormrod (2001), purposive sampling is applied where people are chosen for a particular purpose. The student-respondents are the student leaders of each college department in the different HEIs. The student leaders also included representatives from other sections of each college department. Hence, they are involved in school-based disaster risk reduction

management. As to the faculty, the actual number of respondents was determined by random sampling, each college department was represented equally using the stratified sampling technique. According to Thompson (2012), in stratified sampling, the population is partitioned into regions or strata and a sample is selected by some design within each stratum. Finally, on the part of administrator-respondents, total enumeration was applied.

Table 1 Distribution of Respondents

School	Administrators	Faculty	Students	TOTAL
ACLC	2	11	16	29
CNSC	6	72	66	144
MABINI	6	48	120	174
OLLCF	6	25	94	125
TOTAL	**20**	**156**	**296**	**472**

III. RESULTS AND DISCUSSION

Resources Available in Disaster Management among HEIs: The resources in disaster preparedness among the higher education institutions in Daet, Camarines Norte are categorized as to human and non-human aspects. Human resources include the composition of the School Disaster Risk Reduction Management (SDRRM) Team while the non-human resources include those equipment intended to be used by the SDRRM Team.

Human Resources. The human resources in disaster preparedness include the School Disaster Risk Reduction Management Coordinator, First Aid, and Medical Team, Search and Rescue Team, Emergency Transport Team, Relief, and Rehabilitation Team, Communications Team, Security Team, Firefighting Team, and Psychosocial Team. The School Disaster Risk Reduction Management (SDRRM) Coordinator is responsible mainly for the coordination and establishment of linkage and network with other local government units for disaster risk reduction and emergency response purposes. On the other hand, the First Aid and Medical Team is responsible for giving the necessary aid and medical treatment to the injured in case of disaster. The Search and Rescue Team, with the participation of the Emergency Transport Team, is responsible for the conduct of search and rescue operations of disaster victims and transporting them to a safer zone or the nearest hospital.

The Relief and Rehabilitation Team, on the other hand, is in charge of conducting relief operations as well as implementing rehabilitation or recovery programs for victims in collaboration with the Psychosocial Team to fulfill the victims' needs for help and services. Furthermore, the Communications Team is in charge of disaster information dissemination and communication, as well as the nature, effects, early warning signals, and countermeasures of those hazards and dangers. The Security Team is in charge of maintaining peace and order within the school, as well as the orderly execution of disaster management programs and the installation of effective control measures to minimize other potential risks; it also secures the area and the entire school premises. Meanwhile, the Firefighting Team's primary responsibility is to conduct fire safety inspections of school buildings and extinguish fires if they occur. The human resources in disaster management were (Table 2A) all present in Mabini Colleges, whereas Camarines Norte State College also has the human resources but lacks Search and Rescue Team, Relief, and Rehabilitation Team, and the Firefighting Team. However, the AMA Computer Learning Center and Our Lady of Lourdes College Foundation have only the School DRRM Coordinator and Security Team.

Table 2A Human Resources Available in Disaster Management among HEIs

SDRRM Composition	School			
	ACLC	MABINI	CNSC	OLLCF
School DRRM Coordinator	✓	✓	✓	✓
First Aid and Medical Team		✓	✓	
Search and Rescue Team		✓		
Emergency Transport Team		✓	✓	
Relief and Rehabilitation Team		✓		
Communications Team		✓	✓	
Security Team	✓	✓	✓	✓
Firefighting Team		✓		
Psychosocial Team		✓	✓	

Non-Human Resources. The non-human resources in disaster preparedness among schools in Daet, Camarines Norte include all the equipment that is utilized in managing disasters in school. The non-human resources are categorized according to the users per team of the school's human resources on disaster management. The general purpose use (Table 2B), Mabini Colleges and CNSC have all the listed equipment while OLLCF has no disaster coordinating center, no tents, and no school hazard map. As to ACLC, the only available equipment are the evacuation center, generator, emergency lights, radio (battery operated), student accounting forms, and pens and paper.

Table 2B Non-Human Resources for General Purposes

Facilities and Equipment	School			
	ACLC	MABINI	CNSC	OLLCF
For General Purposes:				
Disaster Coordinating Center		✓	✓	
Evacuation Center	✓	✓	✓	✓
Generator	✓	✓	✓	✓
Assembly Ground		✓	✓	✓
Tents		✓	✓	
Emergency Lights	✓	✓	✓	✓
School Hazard Map		✓	✓	
Portable Water System		✓	✓	✓
Radio (Battery Operated)	✓	✓	✓	✓
Student Accounting Forms	✓	✓	✓	✓
Pens and Paper	✓	✓	✓	✓

Mabini, CNSC, and OLLCF have all the equipment listed while ACLC only has a medical kit, sanitation supplies and medicines, bandages, and blankets (Table 2C).

Table 2C Non-Human Resources for the First Aid and Medical Team

Equipment	School			
	ACLC	MABINI	CNSC	OLLCF
Medical Kit	✓	✓	✓	✓
Sanitation Supplies and Medicines	✓	✓	✓	✓
Stethoscope		✓	✓	✓
Penlight		✓	✓	✓
Bandages	✓	✓	✓	✓
Blankets	✓	✓	✓	✓
Oxygen cylinder		✓	✓	✓
Resuscitator (portable)		✓	✓	✓

For Search and Rescue Team (Table 2D) equipment, the CNSC, and Mabini, all listed equipment were available in their school except for fire sprinkler. Meanwhile, OLLCF has most of the listed equipment for the Search and Rescue Team except fire hydrant and sprinkler. As to ACLC, most of the equipment listed was not available in their school. The only available items were a ladder, flashlights or searchlights, flashlight batteries, utility knife, pliers, portable fire extinguishers, and standby pipe. It could be inferred in the survey that the availability of equipment depends on the capability of the school to acquire the needed equipment. Capability depends on the availability of funds as well as the school's commitment to promoting safety. The commitment, however, is the adherence to Rule 1040 of the Occupational Safety and Health Standards, as amended.

Table 2D Non-Human Resources for the Search and Rescue Team

Equipment	School			
	ACLC	MABINI	CNSC	OLLCF
Ladder	✓	✓	✓	✓
Shovel		✓	✓	✓
Crowbar		✓	✓	✓

Hard Hats		✓	✓	✓
Dust Mask		✓	✓	✓
Safety Goggles		✓	✓	✓
Flashlights/Search Lights	✓	✓	✓	✓
Batteries	✓	✓	✓	✓
Megaphone		✓	✓	✓
Walkie Talkies/Two-way Radio		✓	✓	✓
Utility Knife	✓	✓	✓	✓
Pliers	✓	✓	✓	✓
Pry Axe/Pry Bar		✓	✓	✓
Sledge Hammer (Maso)		✓	✓	✓
Bolt Cutter		✓	✓	✓
Spine Boards/Stretchers		✓	✓	✓
Rope		✓	✓	✓
Fire Extinguishers:				
Portable	✓	✓	✓	✓
Standby Pipe/Fire Hydrant	✓	✓	✓	
Sprinkler				

For the equipment intended for the Emergency Transport Team and the Relief and Evacuation Team (Table 2E), only CNSC, Mabini, and OLLCF have emergency transport vehicles, such as ambulance, bus, jeepney, and tricycle to be utilized in transportation and evacuation.

Table 2E Non-Human Resources for the Emergency Transport Team and the Relief and Evacuation Team

Equipment	**School**			
	ACLC	**MABINI**	**CNSC**	**OLLCF**
Ambulance/Emergency Transport Vehicle			✓	✓
Bus/Jeep/Tricycle		✓	✓	✓

In terms of equipment available among the HEIs intended for use by the Security Team and the Communications Team (Table 2F), the Mabini, CNSC, and OLLCF have all the equipment listed while in ACLC, the only available item is the whistle.

Table 2F Non-Human Resources for the Security Team and the Communications Team

Equipment	**School**			
	ACLC	**MABINI**	**CNSC**	**OLLCF**
Megaphone		✓	✓	✓
Walkie Talkies		✓	✓	✓
Whistle	✓	✓	✓	✓

Level of Disaster Preparedness along with Phases

Mitigation. The structural and non-structural precautions made to mitigate the negative impact of disasters on HEIs in Daet, Camarines Norte are presented below. The HEIs in Daet, Camarines Norte (Table 3A) were moderately prepared (WM=2.62), and among the HEIs, Mabini Colleges (WM=2.98) is leading in disaster preparedness, followed by CNSC (WM=2.87) and OLLCF (WM=2.62), and lastly the ACLC (WM= 2.49). Furthermore, it can be noted that among the HEIs, only ACLC is less prepared as regards the mitigation phase. Looking into details it is worthy to mention that the HEIs were more prepared in terms of construction of medical and sanitary facilities (WM=2.91, R=1) andthe school is the least prepared in terms of publishing a safety and readiness checklist in prominent locations (WM=2.59; R=12). Based on the findings, there are several factors identified and considered to affect the mitigation phase of the mentioned institutions. The two main factors mentioned were adherence to building requirements that caused the institution to be categorized as moderately prepared and lack of funding that pulled them down to the less prepared category. In terms of adherence, willingness to cooperate in planning and safety precautions has been a great factor to improve the implementation of the plan and prevention of further harm during times of disaster (Van Zyl, 2009). Moreover, adherence starts with the ability to recognize deficiencies and faults from previous incidents whereas

management tends to address such insufficiencies after evaluation (Kusumasari, Alam, and Siddiqui, 2010). On the other hand, the economy has a great influence on compliance (Casis, Jr., 2008). Even though the management desires to comply with the demands of the situation, the institutions still need funds to support the process of implementation.

In CNSC, the main factors that influence the mitigation phase are location and adherence. Location, according to Olympia et al. (2010), affects the accessibility of the resources and efficiency of evacuation during disaster situations. Moreover, the school is compliant with the prerequisites needed to be considered "safe", causing CNSC to rank as moderately prepared in the mitigation phase. Meanwhile, OLLCF was categorized as moderately prepared due to influences, which include adherence to requirements, sufficient funds to purchase the needed equipment for preparation, and a large area for evacuation purposes. However, the institution lacked in maintenance and care of the facilities which made it faulty for utilization. According to Baker and Cormier (2013), maintenance is relevant to prepare equipment for future and emergency use. This will be helpful in cases of disaster since the time it may occur is unpredictable.

Table 3A Level of Disaster Preparedness of HEIs along with Mitigation Phase

Indicators	ACLC	CNSC	MC	OLLCF	WM	Description	Rank
Construction of medical and sanitary facilities	2.76	2.94	2.90	3.04	2.91	MP	1
Strict implementation of safety regulations or codes	2.83	2.90	3.07	2.58	2.85	MP	2
Implementation of Building and Fire Safety Code	2.52	3.00	3.14	2.66	2.83	MP	3
Organization of School Disaster Risk Management Committee	2.59	2.98	3.10	2.55	2.80	MP	4
Development of a School Hazard Map	2.48	2.97	3.03	2.60	2.77	MP	5
Formulation of an Evacuation Plan	2.41	2.99	2.98	2.62	2.75	MP	6.5
Construction of portable water system	2.31	2.88	2.87	2.94	2.75	MP	6.5
Implementation of prevention and mitigation activities	2.45	2.85	2.97	2.48	2.69	MP	8
Mapping of Vulnerable Structures or Areas	2.45	2.78	3.05	2.42	2.68	MP	9
Development of Disaster Prevention or Mitigation Plan	2.48	2.83	2.93	2.36	2.65	MP	10
Construction of flood levees and drainage canals	2.34	2.59	2.89	2.68	2.63	MP	11
Posting of safety and preparedness checklist in conspicuous places of the school	2.31	2.76	2.80	2.47	2.59	MP	12
WM	**2.49**	**2.87**	**2.98**	**2.62**	**2.62**	**MP**	
Rank	**4**	**2**	**1**	**3**			

Legend: 3.26-4.00=Fully Prepared (FP); 2.51-3.25=Moderately Prepared (MP); 1.76-2.50=Less Prepared (LP); 1.00-1.75=Not Prepared (NP)

Preparedness. The level of disaster preparedness of the HEIs in Daet, Camarines Norte along the preparedness phase (Table 3B) is moderate (WM=2.74). All of the indicators except one revealed that the schools are moderately prepared in terms of the conduct of disaster preparedness activities. Among the activities conducted, it showed that the conduct of drills and simulation exercises obtained the highest rank, which means that all the HEIs are moderately prepared (WM=3.04). In terms of the conduct of drills and simulation exercises, CNSC obtained the highest rank (WM=26), followed by Mabini Colleges (WM=3.05), ACLC (WM=2.97), and OLLCF (WM=2.90). It can be further noted that among the indicators, the development and regular testing of contingency plans have garnered the lowest rank for all the HEIs, which is described as less prepared (WM=2.48). This could mean that the four HEIs have relatively low preparedness levels in terms of the development and testing of contingency plans. Furthermore, it can be noted that among the HEIs, CNSC has achieved the highest rating with a weighted mean of 2.99, then followed by Mabini Colleges (WM=2.86), OLLCF (WM=2.74), and ACLC (WM=2.53), all of which are described as moderately prepared.

Among the different activities conducted in ACLC, the conduct of drills and simulation exercises (WM=2.97), which is described as moderately prepared. This could mean that ACLC College is conducting drills and simulation exercises as a preparedness measure in times of disaster. On the contrary, the development and regular testing of contingency plans (WM= 2.21) are less prepared. This could mean that the school has not yet developed a contingency plan or the same has not yet been tested. Results further revealed that as regards the definition of roles of members of the School Disaster Management Committee, mobilization of disaster response organization, development and regular testing of contingency plans, the establishment of Incident Command Systems, preparation of emergency communication system, pre-emptive evacuation, and identification of evacuation areas within the school facility, the respondents are less prepared. On the other hand, disaster management orientation for students, teachers, and other school personnel, disaster risk reduction training and seminars, hazard or risk assessment, maintained, updated, and posted emergency hotline numbers, counter disaster planning, coordination with concerned agencies, prepared and posted evacuation plans and safety signage in all school building premises, having enough drinking water and first aid supplies, as well as doing drills and simulation exercises were all at moderately level of preparedness. At CNSC, the results revealed that the conduct of drills and simulation exercises was ranked by the respondents as the highest (WM=3.26) anddescribed as fully prepared. This could mean that the school is conducting regular drills and simulation exercises to enhance the preparedness of its students and personnel. On the other hand, the development and

regular testing of contingency plans are described as moderately prepared (WM=2.67). This could mean that in the development and regular testing of contingency plans, the school may have not yet developed a disaster contingency plan or if developed, no regular testing is conducted.

For Mabini Colleges, the highest rank was given to the drafting and posting of evacuation plans and safety signage in all school buildings (WM=3.08) and described as moderately prepared. It can be inferred that Mabini Colleges is taking precautionary measures by preparing and posting evacuation routes as well as posting safety signage that can be easily viewed by personnel and students to help ensure their preparedness in times of disaster. On the contrary, the development and regular testing of contingency plans ranked the lowest (WM=2.65) and was described as moderately prepared. It can be gleaned that the development of contingency plans may not have been conducted or not been tested regularly. Meanwhile, in OLLCF, the conduct of disaster management orientation among students, teachers, and other school personnel obtained the highest rank (WM=2.91) or moderately prepared. It can be inferred that under this aspect, OLLCF conducts regular disaster management orientation among its personnel and students. On the other hand, the definition of the roles of members of the School Disaster Management Committee was described by the respondents as less prepared (WM=2.26). Based on the results, it can be implied that the roles and functions of the School Disaster Management Committee are not defined clearly or not yet established. As provided in Table 2A, OLLCF has not yet organized its school-based disaster management committee.

In summary, it is noticeable that among all the activities conducted in the preparedness phase, the highest-ranked was the conduct of drills and simulation exercises. Beggan (2011) agreed, stating that the disaster preparedness plan needed to be rehearsed and that rehearsals would reemphasize points stated in individual training programs, test the system as a whole, and expose flaws that would otherwise go unnoticed. As a result, rehearsals, evacuations, and response protocols should be practiced, assessed, and improved regularly.

Table 3B Level of Disaster Preparedness of HEIs along Preparedness Phase

Indicators	ACLC	CNSC	MC	OLLCF	WM	Description	Rank
Conduct of drills and simulation exercises	2.97	3.26	3.05	2.90	3.04	MP	1
Conduct of disaster management orientation among students, teachers, and other school personnel	2.76	3.07	3.00	2.91	2.94	MP	2
Prepared and posted evacuation plans and safety signage in all school building premises	2.66	2.92	3.08	2.72	2.84	MP	3
Conduct of disaster risk reduction trainings and seminars	2.69	3.17	2.67	2.76	2.82	MP	4
Provision of early warning system	2.52	3.16	2.94	2.64	2.81	MP	5.5
Sufficient amount of drinking water and first aid supplies	2.55	3.00	2.90	2.77	2.81	MP	5.5
Coordination with concerned agencies	2.69	3.02	2.66	2.70	2.77	MP	7
Maintained, updated, and posted emergency hotline numbers	2.62	2.99	2.93	2.55	2.77	MP	8
Hazard or risk assessment	2.55	2.91	2.89	2.66	2.75	MP	9
Preparation of emergency communication system	2.41	2.93	2.91	2.58	2.71	MP	10
Pre-emptive evacuation	2.48	3.02	2.79	2.51	2.70	MP	11
Identified evacuation areas within the school facility	2.45	2.76	2.92	2.61	2.68	MP	12.5
Conduct of counter disaster planning	2.59	3.06	2.69	2.40	2.68	MP	12.5
Clearly defined roles of members of the School Disaster Management Committee	2.31	2.97	2.93	2.26	2.62	MP	14
Mobilization of disaster response organization	2.24	2.98	2.89	2.30	2.60	MP	15.5
Establishment of Incident Command Systems	2.38	2.88	2.66	2.47	2.60	MP	15.5
Development and regular testing of contingency plans	2.21	2.67	2.65	2.40	2.48	LP	17
WM	**2.53**	**2.99**	**2.86**	**2.60**	**2.74**	**MP**	
Rank	**4**	**1**	**2**	**3**			

Response. The efforts of HEIs to give aid or intervention during or shortly after a disaster to address the life-sustaining and basic sustenance needs of those impacted, as well as to restore important activities and facilities, are presented below.The level of disaster preparedness of the HEIs in Daet, Camarines Norte along the response phase (Table 3C) unveils that the HEIs are moderately prepared except for ACLC College (WM=2.47) which is less prepared. In ACLC, the dissemination of information sharing of disaster-related information has obtained the highest rank (WM=2.83) or moderately prepared. This could mean that ACLC conducts among its personnel and students information-sharing regarding disasters. On the contrary, the management of dead and missing obtained the lowest rank with an obtained mean of 2.21, described as less prepared. While for CNSC, the students and school personnel tracking obtained the highest rank (WM= 3.22) as moderately prepared. This could indicate that a mechanism exists within the school to track pupils and personnel as they enter and exit the premises. On the other hand, the management of dead and missing was rated as the lowest with an obtained mean of 2.75 or moderately prepared. This is maybe because there is yet no occurrence or no record of any dead or missing person in school. As to Mabini Colleges, the highest ranked item was the dissemination of information sharing of disaster-related information (WM=3.09) or moderately prepared. This could mean that

the school is very active in disseminating to its students and personnel information regarding the disaster. On the contrary, the relief operations were rated by the respondents as the lowest (WM=2.62) or moderately prepared.

Meanwhile, in OLLCF, the highest score (WM=2.87) was given to collaboration with concerned government offices on any needed support for emergencies, which is seen as moderately prepared. It can be inferred that under this indicator, the school is coordinating with concerned agencies relative to the management of disasters, especially on the conduct of seminars and training needed to be delivered to its students and personnel. Opposite to that, the survey and assessment after a disaster obtained the lowest rank (WM= 2.55) or moderately prepared. It can be gleaned that the conduct of surveys and assessment is not a priority of the school. In summary, it could be noticed that the dissemination of information sharing of disaster-related information has garnered the highest rank from the HEIs in Daet (WM=2.89) or moderately prepared. In catastrophe scenarios, information dissemination on the implementation of disaster management plans is critical, as it serves as a guide or provides information on what to do before, during, and after emergencies. Moreover, information dissemination can be done in several ways, such as the conduct of seminars and training, emergency drills, and posters, lectures, and memorandums. According to UNISDR (2009), a disaster can be reduced substantially if people are well informed and motivated towards a culture of disaster prevention and resilience, which in turn requires the collection, compilation, and dissemination of relevant knowledge and information on hazards vulnerabilities and capacities. On the other hand, the management of dead and missing was ranked the lowest (WM= 2.56) or moderately prepared. This is because there was yet no recorded incident for the past score. As to the overall result, it can be noted that along response, CNSC has obtained the highest preparedness (WM= 2.99), followed by Mabini Colleges (WM= 2.97), OLLCF (WM= 2.55), and lastly, ACLC (WM=2.41). CNSC, Mabini Colleges, and OLLCF are described as moderately prepared while ACLC is less prepared in terms of response.

Table 3C Level of Disaster Preparedness of the HEIs along Response Phase

Indicators	ACLC	CNSC	MC	OLLCF	WM	Description	Rank
Conduct of drills and simulation exercises	2.97	3.26	3.05	2.90	3.04	MP	1
Conduct of disaster management orientation among students, teachers, and other school personnel	2.76	3.07	3.00	2.91	2.94	MP	2
Prepared and posted evacuation plans and safety signage in all school building premises	2.66	2.92	3.08	2.72	2.84	MP	3
Conduct of disaster risk reduction trainings and seminars	2.69	3.17	2.67	2.76	2.82	MP	4
Provision of early warning system	2.52	3.16	2.94	2.64	2.81	MP	5.5
Sufficient amount of drinking water and first aid supplies	2.55	3.00	2.90	2.77	2.81	MP	5.5
Coordination with concerned agencies	2.69	3.02	2.66	2.70	2.77	MP	7
Maintained, updated, and posted emergency hotline numbers	2.62	2.99	2.93	2.55	2.77	MP	8
Hazard or risk assessment	2.55	2.91	2.89	2.66	2.75	MP	9
Preparation of emergency communication system	2.41	2.93	2.91	2.58	2.71	MP	10
Pre-emptive evacuation	2.48	3.02	2.79	2.51	2.70	MP	11
Identified evacuation areas within the school facility	2.45	2.76	2.92	2.61	2.68	MP	12.5
Conduct of counter disaster planning	2.59	3.06	2.69	2.40	2.68	MP	12.5
Clearly defined roles of members of the School Disaster Management Committee	2.31	2.97	2.93	2.26	2.62	MP	14
Mobilization of disaster response organization	2.24	2.98	2.89	2.30	2.60	MP	15.5
Establishment of Incident Command Systems	2.38	2.88	2.66	2.47	2.60	MP	15.5
Development and regular testing of contingency plans	2.21	2.67	2.65	2.40	2.48	LP	17
WM	**2.53**	**2.99**	**2.86**	**2.60**	**2.74**	**MP**	
Rank	**4**	**1**	**2**	**3**			

Recovery. The ability of HEIs to restore their normal level of functioning by rebuilding (Table 3D) unveils that all the indicators were rated by the HEIs in Daet as moderately prepared. Among all the indicators along recovery, the school clean-up or clearing of debris obtained the highest rank (WM= 2.97) or moderately prepared. Under this aspect, Mabini College obtained the highest preparedness (WM=3.18), followed by CNSC (WM=3.09), OLLCF (WM=2.88), and ACLC (WM=2.72), all of which are described as moderately prepared. On the contrary, the documentation of accidents experienced by students and personnel within the school to improve prevention and mitigation measures were rated as the lowest among the schools (WM= 2.74) or moderately prepared.

Among all aspects, the school clean-up or clearing of debris obtained the highest mean of 2.88, which is described as moderately prepared. It can be gleaned that among the aspects of recovery, school clean-up comes as the priority to maintain a safe and clean environment for the students and school personnel. School clean-up is a task every person in the school should be involved in, especially the students. According to Fremont (2015), working together to clean the school presents an excellent opportunity for students to learn and to practice cooperation with others. Cleaning school facilities as a group activity require students to communicate, help, and coordinate with one another. Such a collective effort will help students develop skills in working with others and learn the concept of team spirit. Furthermore, according to Fremont, if every student is required to clean his/her school for about fifteen minutes every school day, there will be a cleaner and healthier school environment. On the contrary, the monitoring, evaluating, and reporting of interventions before, during, and after a disaster was rated as the lowest with a mean of 2.58 or moderately prepared. It is the least priority of the

HEIs as it is to be conducted after a disaster. According to Momani and Salmi (2012), the conduct of monitoring and evaluating immediately after a disaster, participatory planning among stakeholders to establish priority areas, monitoring responsibilities, and program indicators can help communities reduce the impact of natural hazards. The capacity of a country defines largely the type and level of monitoring and evaluation undertaken in disaster-related activities. Large-scale disasters may overwhelm in-country systems for recovery and management.

Table 3D Level of Disaster Preparedness of the HEIs along Recovery Phase

Indicators	ACLC	CNSC	MC	OLLCF	WM	I	Rank
School clean-up or clearing of debris	2.72	3.09	3.18	2.88	**2.97**	MP	1
Student care and supervision	2.97	3.08	3.02	2.70	**2.94**	MP	2
Facilitation of the immediate resumption of classes	2.93	3.08	3.04	2.64	**2.92**	MP	3
Repair of damaged school buildings or facilities	2.76	3.07	3.06	2.60	**2.87**	MP	4.5
Student-family reunification	2.79	3.06	2.99	2.64	**2.87**	MP	4.5
Rehabilitation of power lifeline and power supply system	2.55	3.15	3.01	2.70	**2.85**	MP	6.5
Monitored, evaluated, and reported interventions before, during, and after a disaster	2.72	3.03	3.06	2.58	**2.85**	MP	6.5
Medical assistance	2.41	3.18	3.01	2.74	**2.84**	MP	8
Reviewed implementation of safety and preparedness measures and protocols	2.59	3.00	3.05	2.63	**2.82**	MP	9
Establishment of temporary spaces for learning	2.59	3.04	2.92	2.69	**2.81**	MP	10
Conduct of rapid assessment of damages for preparation and submission of reports	2.55	3.10	2.95	2.62	**2.80**	MP	11
Documentation of accidents experienced by students and personnel within the school to improve prevention and mitigation measures	2.41	3.00	2.94	2.61	**2.74**	MP	12
WM	**2.67**	**3.07**	**3.02**	**2.67**	**2.86**	**M P**	
Rank	**3.5**	**1**	**2**	**3.5**			

The level of disaster preparedness of higher education institutions in Daet, Camarines Norte, was defined as moderately prepared (WM=2.78) at various stages of disaster management.Along mitigation phase, Mabini Colleges is much prepared than the rest of the schools, followed by CNSC (WM=2.87), OLLCF (WM= 2.62), and ACLC (WM=2.49). The first three HEIs obtained a mean described as moderately prepared while ACLC is less prepared. The HEIs mitigation phase of preparedness in Daet is moderate (WM=2.74). Results on preparedness phase, all the HEIs are moderately prepared. However, it can be noted that CNSC has obtained the highest mean of 2.99, followed by Mabini (WM= 2.86), OLLCF (WM=2.60), and ACLC (WM=2.53). For the response phase, data revealed that the highest weighted mean of 2.99 was obtained by CNSC, followed by Mabini Colleges (WM= 2.90), OLLCF (WM= 2.67), and ACLC (WM=2.47). All HEIs obtained a moderately prepared level except for ACLC, whose level is less prepared. Along the recovery phase, it can be noted that all the HEIs obtained is at a moderately prepared level. However, the highest mean was obtained by CNSC (WM=3.07), followed by Mabini (WM=3.02), OLLCF (WM=2.67), and ACLC (WM=2.67).

To sum up, it can be noted that CNSC has obtained the highest level of disaster preparedness along with the four phases of disaster management (WM=2.98), which is described as moderately prepared. It can be inferred that CNSC has a well-organized school-based disaster management committee. Second in rank was Mabini Colleges (WM= 2.94) with a moderately prepared level. The third rank was obtained by OLLCF (WM=2.64) described as moderately prepared level. The last in rank was ACLC (WM= 2.54) with a moderately prepared level. It could be noted that the level of disaster preparedness of ACLC in terms of mitigation and response has obtained means of 2.49 and 2.47, respectively, which are both described as at a less prepared level. It could be inferred that due to the absence of a disaster management committee, the level of disaster preparedness of the school is affected adversely.

As a result, every institution or agency must develop its disaster risk reduction plan to assist prevent or mitigating disaster effects. Disaster risk reduction, according to Muttarak and Pothisiri (2012), is critical for achieving a more fair and sustainable future. Investing in disaster prevention and preparedness, including through civil defense exercises, is an essential component of systematic efforts to improve catastrophe resilience.

Table 3E Summary of the Level of Disaster Preparedness across Phases

Phases	ACLC	CNSC	MABINI	OLLCF	Mean	Description	Rank
Mitigation	2.49	2.87	2.98	2.62	2.74	MP	4
Preparedness	2.53	2.99	2.86	2.60	2.75	MP	3
Response	2.47	2.99	2.90	2.67	2.76	MP	2
Recovery	2.67	3.07	3.02	2.67	2.86	MP	1
WM	**2.54**	**2.98**	**2.94**	**2.64**	**2.78**	**MP**	
Rank	**4**	**1**	**2**	**3**			

Problems Encountered in the Implementation of Disaster Management Programs: The problems encountered in the implementation of the disaster preparedness programs were identified by the respondents per school through and per aspect.

In Mitigation Phase. Among all the problems encountered, the most identified was the poor construction of canals and drainage systems in all schools. It was highlighted also the lack of emergency response training according to ACLC. For CNSC and Mabini they identified the problem of the absence of an evacuation plan. While for OLLCF they highlighted the lack of funds to support the mitigation measures and conduct of training and seminars regarding disaster preparedness.

In the Preparedness phase. The lack of seminars and training on disaster management and there is no disaster management orientation was well identified by CNSC, Mabini, and OLLCF. For ACLC, they identified the unavailability of hazard maps or the failure of conducting hazard mapping as the problem along the preparedness phase.

In Response Phase. All HEIs identified the lack of adequate funds to respond to a disaster as the main problem. The operations of the Disaster Management Committee involve the utilization or allocation of funds. According to Section 21 of RA 10121, a minimum of 5% of the estimated revenue from regular sources must be set aside as the Local Disaster Risk Reduction and Management Fund (LDRRMF) to support disaster risk management activities such as, but not limited to, pre-disaster preparedness programs such as training, purchasing life-saving rescue equipment, supplies, and medicines, post-disaster activities, and payment of calamity insurance premiums. In addition, there is a paucity of emergency responders for search and rescue operations in the event of a crisis, as well as communication equipment.

In Recovery Phase. The implementation of disaster management programs on recovery, the lack of support from heads and other concerned agencies is common among the HEIs. This means that the implementation or management of disasters in school requires most of the support from heads. The administrators in the school must be the ones to take the lead, especially in the planning and execution of disaster management programs. Administrative professionals, according to Perrine (2013), play a critical role in office operations, putting them in a unique position to provide invaluable insight and value to their company's disaster recovery strategy.With proper forethought and planning, administrators can step in and become part of their company's immediate response team that finds solutions and mobilizes resources, if a disaster strikes.

IV. CONCLUSIONS

With the foregoing findings, it is safe to conclude that Mabini Colleges is the only HEI that has the complete composition of the School Disaster Risk Reduction Management Team. In CNSC, the SDRRM team composition lacks the Firefighting Team, Relief and Rehabilitation Team, and Search and Rescue Team. On the other hand, ACLC and OLLCF only have the School DRRM Coordinator and Security Team. Most of the basic equipment was present in Mabini, CNSC, and OLLCF while only a little is present in ACLC College. The schools with lacking available human resources must organize their School Disaster Risk Reduction Management (SDRRM) Team in adherence to the provisions of the laws and issuances, especially RA 10121 and DepEd Order No. 50, s. 2011, to enable them to be prepared and capable of addressing or managing disasters. Unavailable equipment in disaster management in the school must be provided to enable full management capabilities before, during, and after a disaster. Funds must, therefore, be allocated in the provision of basic or necessary equipment. CNSC, Mabini Colleges, and OLLCF all had a moderate degree of disaster preparedness for the four phases of disaster management, whereas ACLC had a lower level of preparedness for mitigation and response.The HEIs must conduct the given preparations to establish a well-prepared environment in the advent of disasters. Also, the HEIs must be able to anticipate disaster impacts for a better and faster response capability. The basic equipment, however, must be provided by the HEI for effective mobilization of emergency responders, along with the necessary skills needed by the responders. Moreover, the HEIs must first take into consideration the care and supervision needed by their students and personnel before the conduct of any other activity. Assessment must, therefore, be conducted to facilitate more improved and more effective risk management shortly.The most common problem in all the disaster management phases was the lack of funds.Funding for disaster management in schools must be prioritized at all HEIs to improve full capabilities in disaster preparedness, mitigation, response, and recovery.

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