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Oct 1st, 12:00 AM - 12:00 AM

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Recommended Citation

Tizon, Roselene Tabilon and Comighud, Sheena Mae Trestiza, "Implementation of the Public Schools' Disaster Risk Reduction Management Program and Level of Capabilities to Respond" (2020). *UBT International Conference*. 1.

<https://knowledgecenter.ubt-uni.net/conference/2020/ed/1>

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Implementation of the Public Schools' Disaster Risk Reduction Management Program and Level of Capabilities to Respond

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Abstract: This study assessed the status of implementation of the public schools' disaster risk reduction management (DRRM) program as to the four (4) DRRM thematic areas and the level of capability of the respondents to respond during hazards to prevent disaster in all public schools of Bayawan City Division, Negros Oriental for S.Y. 2018-2019. A total of ninety-six (96) public elementary and secondary school heads were selected as research respondents representing the different 10 districts of Bayawan City Division. The study used the adopted survey questionnaires from the National Disaster Risk Reduction and Management (NDRRM) Plan and the Hyogo Framework of Action. It utilized descriptive-quantitative method and weighted mean and spearman rank correlation coefficient were used as statistical tools. The results of the study revealed that the disaster risk reduction management (DRRM) program in public schools of Bayawan City Division is well implemented. Public schools are also very capable to respond to hazards in the occurrence of disasters. It concluded that there is a significant relationship between the status of DRRM implementation and the level of capabilities among the public school administrators.

Keywords: Department of Education, risk management, descriptive research, Philippines

Introduction

The Philippines is exposed to disasters both natural and man-made due to its geography and geology or location in both the Pacific Ring of Fire and typhoon belt. Cyclones, volcanic eruptions, earthquakes, landslides, and flooding are just among the disasters and hazards that the country recurs to experience. Moreover, it has been ranked third (3rd) among 173 countries in terms of disaster risk World Risk Index 2012 released by the United Nations International Strategy for Disaster Reduction (UNISDR) (Gaillard, Liamzon, and Villanueva, 2012).

Philippine government has developed designs to counterbalance the effects of both natural and man-made disasters. The main intent of formulated laws and policies are to increase the resilience of vulnerable communities and the country against natural disasters and to reduce damage and loss of properties. In addition, R.A. 10121 otherwise known as the Philippine Disaster Risk Reduction and Management Act paved way to new plans and policies as to the execution of different measures and actions in all phases of DRRM. This provided a paradigm shift from reactive to pro-active, from top-down and centralized management to bottom-up and participatory disaster risk reduction process (RA 10121, 2010). Through this Act, the National DRRM Framework (NDRRMF) and National DRRM Plan (NDRRMP) were developed. Both the NDRRMF and NDRRMP foresee a country which has “safer, adaptive and disaster-resilient Filipino communities toward sustainable development”. Together with the paradigm shift is the creation of the four thematic areas namely; a) Prevention and Mitigation, b) Prepared-ness, c) Response, and d) Rehabilitation and Recovery. Each area

has long term goals and activities which will lead to the attainment of overall vision in DRRM. According to the NDRRMF, resources invested in the four thematic areas must prioritize disaster prevention and mitigation, disaster preparedness and climate change adaptation to be more effective in attaining its goal and objectives (NDRRMF, 2011). While the DRRM act providing a legal basis for its disaster risk reduction directives, Department of Education (DepEd) issued DepEd No. 37, s. 2017 as the basis of the Basic Education Framework with a more comprehensive Disaster Risk Reduction Management. In this framework, the offices and schools of DepEd shall have institutionalized DRRM structures, systems, protocols and practices. Moreover, as the impact of disasters always finds their way in schools through strong typhoons and massive flooding that ruins school properties. Thus, Philippines being prone to disaster warrant a closer look at its disaster-related policies that are currently in place (Catanus, 2018; Mamhot, 2019). Although numerous different programs have been developed, there are still very few studies on the program awareness and implementation in educational institutions. Thus, to fill in the gap in existing literature, this study aims to assess the extent of implementation of the public schools' DRRM program and their level of capabilities to respond.

The Problem

Statement of the Problem

This research determined the status of the implementation of Public Schools' Disaster Risk Reduction Management Program in All Public Schools of Bayawan City Division, Negros Oriental for S.Y. 2018-2019.

It specifically sought to answer the following problems:

1. What is the status of the implementation of the disaster risk reduction management program of as to:
 - 1.1 disaster prevention and mitigation,
 - 1.2 disaster preparedness,
 - 1.3 disaster response,
 - 1.4 disaster recovery and rehabilitation?

2. What is the level of the capabilities of the Public Schools of Bayawan City Division in the implementation of the disaster risk reduction management program with regards to:
 - 2.1 human resources,
 - 2.2 material facilities,
 - 2.3 knowledge, innovation and education,
 - 2.4 policies, plans and procedures,
 - 2.5 capacities and mechanisms?

3. Is there a significant relationship in the status of implementation of DRRM and the level of capabilities among the public school administrators?

Hypothesis

The hypothesis of the study was tested at 0.05 level of significance:

H₀: There is no significant relationship in the status of implementation of DRRM and the level of capabilities among the public school administrators.

Definition of Terms

Disaster Risk Management. This refers to the systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster.

Disaster Risk Reduction. This refers to the concept and practice of reducing disaster risks through systematic efforts to analyze and reduce the causal factors of disasters.

Implementation. This refers to how the provision is evidently observed in schools, with strict compliance in the disaster risk reduction and management thematic areas.

Public Schools. This refers to registered educational institution that nurtures learners for their elementary and secondary education.

Response. This refers to the reaction to do something in times of disasters and natural calamities.

Review of Related Literature

According to UNESCO (2010), preparedness plans are dynamic ventures which need to be reviewed, modified, updated and tested on a regular basis. Active disaster preparedness includes developing comprehensive response plans, monitoring hazards threats, training emergency personnel, and training members of the communities at risk “to ensure the timely appropriate and effective delivery of relief”. Preparing for disasters can reduce potential damage and save lives, which can assist in the speed and efficiency of recovery efforts (King & Tarrant, 2013). Planning and preparing for disasters is an ongoing process. Although planning ahead is not an easy task, it is necessary to achieve positive results, and it is becoming more morally and economically essential after every event.

Gubalane (2015) stated that contingency planning is actually a fundamental tool, but good plan cannot stand alone without having an empowered citizenry, infrastructures, emergency response mechanisms, rehabilitation, and other important logistics. The bottom line of the aforementioned would questions about the financial capabilities of the government or the local government units (to be specific), schools or universities and/or organizations. Moreover, United States Federal Emergency Management Agency (FEMA, 2013), states that schools may be seen as the ideal setting for the dissemination of risk-based educational programs. By giving the proper preparedness skills, students can develop those skills and carry them into their adulthood. There is a need to assess whether learners and educators are aware of the safety plans and are well prepared for any outbreak of disasters (Mamogale, 2011). Grant (2012) stressed that the disaster awareness in schools, can be incorporated in institution through strategically posting safety rules, installing firefighting equipment, evacuation exits, maintain buildings, organizing seminars on disaster awareness and involving peer education, electronic and print media, action learning and using science education as a means to introduce studies of disaster risk.

Research Methodology

This study used the descriptive-qualitative method. The locale of the study covers the Public Schools of Bayawan City Division, Bayawan City, Negros Oriental, Philippines. The respondents of the study were the school heads who are part of the DRRM Core Group. The study utilized the adopted survey questionnaires from the National Disaster Risk Reduction Management (NDRRM) Manual to determine the status of the implementation of Public Schools' Disaster Risk Reduction Management Program based on the NDRRM policies, plans, and procedures and the level of capabilities of the respondents to respond to hazards in times of the disaster anchored on the Hyogo Framework of Action. The researcher sought approval from the Office of the Schools Division Superintendent to administer the survey instruments. Upon the approval, copies of the research instruments were given to the different school administrators representing the SDRRM core group and team itself.

Presentation, Analysis, and Interpretation of the Data

This chapter presents the data analysis, and interpretation of the findings of the study.

Table 1: Status of the Implementation of Disaster Prevention and Mitigation

Indicators	$w\bar{x}$	Verbal Description
1. DRRM and CCA mainstreamed and integrated in national, sectoral, regional and local development policies, plans and budget	4.07	Well Implemented
2. DRRM and CCA-sensitive environmental management	4.02	Well Implemented
3. Increased disaster resiliency of infrastructure systems	3.97	Well Implemented
4. Community based and scientific DRR-CCA assessment, mapping, analysis and monitoring	3.96	Well Implemented
5. Communities have access to effective and applicable disaster risk financing and insurance	3.49	Well Implemented
6. End-to-End monitoring, forecasting and early warning systems are established and/or improved	3.96	Well Implemented
Composite Mean	3.91	Well Implemented

Table 1 presents the status of implementation of the disaster risk reduction management program in terms of disaster prevention and mitigation. As indicated by the data presented, the thematic area on disaster prevention

and mitigation obtained an overall composite mean of 3.91 which denotes a verbal equivalent of “well implemented”. The whole level of disaster prevention and mitigation resulted to be well implemented as manifested by the different indicators. This implied that public schools perform its roles and responsibilities as agents of reforms. In affirmation, the studies of Komino (2014) and Campilla (2016) stated that public schools through its school administrators give importance in informing the public as regard to disaster mitigation, especially community groups both formal and informal in nature. Indeed, this is a manifestation that public schools are competent in performing their roles and carrying their functions in uplifting reforms and creating innovations.

Table 2: Status of the Implementation of Disaster Preparedness

Indicators	$w\bar{x}$	Verbal Description
1. Increased level of awareness and enhanced capacity of the community to the threats and impacts of all hazards	4.21	Well Implemented
2. Communities are equipped with the necessary skills and capability to cope with the impact of disasters	3.77	Well Implemented
3. Increased disaster resiliency of infrastructure systems	3.79	Well Implemented
4. Developed and implemented comprehensive national and local preparedness policies, plans and systems	3.98	Well Implemented
5. Strengthened partnership and coordination among all key players and stakeholders	4.01	Well Implemented
Composite Mean	3.95	Well Implemented

Table 2 shows the status of implementation of the disaster risk reduction management program in terms of disaster preparedness. It can be seen in the table that the status of disaster risk reduction management along disaster preparedness obtained an overall composite mean of 3.95

which is well implemented. Moreover, according to Brooks (2012) and Cutter (2013), taking responsibility requires an approach that involves top-down and bottom-up efforts that include everyone from the national level all the way down to the grassroots setting” when it comes to preparing for and responding to disasters. Therefore, planning and preparedness is a shared responsibility, and working together toward a common goal can assist in identifying needs and gaps in disaster education and preparedness. Efforts should be complementary and should not work against each other (Cutter, 2013).

Communication and collaboration among all parties helps to avoid the duplication of services, eliminates misinformation, and strengthens and expands the community’s network in all phases of disaster management. Also in the general picture, King and Tarrant (2013) disclosed that preparing for a disaster can reduce potential damage and save lives, which can assist in the speed and efficiency of recovery efforts.

Table 3: Status of the Implementation of Disaster Response

Indicators	$w\bar{x}$	Verbal Description
1. Well-established disaster response and relief operations	3.80	Well Implemented
2. Adequate and prompt assessment of needs and damages	3.80	Well Implemented
3. Integrated and coordinated Search, Rescue and Retrieval (SRR) capacity	3.74	Well Implemented
4. Evacuated safely and on time affected communities	3.88	Well Implemented
5. Temporary shelter and/or structural needs are adequately addressed	3.80	Well Implemented
6. Basic social services provided to affected population (whether inside or outside ECs)	3.63	Well Implemented
7. Psychosocial needs of affected population addressed	3.57	Well Implemented
8. Coordinated and integrated system for early recovery	3.72	Well Implemented
Composite	3.74	Well Implemented

Table 3 displayed the status of implementation of the disaster risk management program in terms of disaster response. It can be gleaned from the data on the table that the overall composite mean of the respondents along response management is 3.74 which is well implemented in the public schools or grassroots settings. All eight items were rated to have “very effective” program implementation having weighted means that range from 3.57–3.88. This implied that public schools in the Division of Bayawan City, Bayawan City, Negros Oriental has a great extent of implementation in the area of disaster response through providing support to speed up normal situations in the affected areas. This assessment of public schools’ DRRM implementation can be attributed to trainings, the school administrators developed their overall ability to assess own strengths and weaknesses and engaged in the new learning including modified skills, competencies and attributes and eventually becoming responsible for their own selves to respond to the different functions of management and leadership during disasters. Thus, the status of implementation of the third thematic area on disaster response was greatly implemented. This further shows that that in terms of providing basic life preservation and meet the basic substance needs during or immediately after a disaster, the SDRRM team members has successfully provided those needs through partnership mechanisms with utility providers and key stakeholders.

Table 4: Status of the Implementation of Disaster Recovery and Rehabilitation

Indicators	$w\bar{x}$	Verbal Description
1. Damages, Losses and Needs Assessed	3.83	Well Implemented
2. Economic activities restored and if possible, strengthened or expanded	3.71	Well Implemented
3. DRRM and CCA elements are mainstreamed in human settlement	3.78	Well Implemented
4. Disaster and climate change resilient infrastructure constructed/reconstructed	3.68	Well Implemented
5. An psychologically sound, safe and secured citizenry that is protected from the effects of disasters are able to restore to normal functioning after each disaster	3.80	Well Implemented
Composite	3.76	Well Implemented

Table 4 disclosed the data on the status of implementation of the disaster risk reduction management program in terms of disaster rehabilitation and recovery. The data on the table showed that the overall composite mean of the respondents along rehabilitation and recovery management is 3.76 described as well-implemented. All items along this area were assessed to be well implemented obtaining weighted means that ranges from 3.68-3.83 on the 5 items. Item number 1 “Damages, losses, and needs assessed” got the highest rank obtaining a weighted mean of 3.83. This implied that DRRM Team conducts post disaster needs assessment or the accounting of damages, losses and needs which will be the basis for identifying programs, projects and activities for the disaster affected areas and settings. In addition to this, Antonio and Antonio (2017) provided the details that after calamity strikes, a systematic process of preparing for rehabilitation and recovery should be done. This involves post-damage needs assessment (PDNA), restoration activities, and recovery plan to abide by the build-back better principle of the NDRRMP and prevent another disaster to happen. This area involves multi-sectoral and multi-disciplinary approach as it covers estimation and valuation of losses, damages, and needs in agriculture, services, trade, etc.

In support, Dominguez (2014) indicated that the implementation rate of disaster rehabilitation and recovery only proves that DRRM team coordinates for livelihood, living conditions and organizational capacities to be restored and improved after a disaster. Also, Tuladhar et al. (2015) shared the findings that public schools, through its school managers and DRRM team members, report to proper authorities the victims of calamities for assistance on their needs. The item which obtained the lowest weighted mean is “Disaster and climate change resilient infrastructure constructed/reconstructed”. This implied that public schools took a long term recovery to ensure that the rehabilitation or reconstruction of infrastructure is disaster and climate-proof. As Dela Cruz (2016) put forward, public schools should develop systems for appropriate risk reduction protection measures through monitoring structural safety maintenance in the building codes and school infrastructures.

Table 5: Extent of Compliance of the Respondents

Indicators	$w\bar{x}$	Verbal Description	Extent Equivalent
Areas of DRRM			
Disaster Prevention and Mitigation	3.91	Well Implemented	High
Disaster Preparedness	3.95	Well Implemented	High

Disaster Response	3.74	Well Implemented	High
Disaster Recovery and Rehabilitation	3.76	Well Implemented	High

This section presents the extent of compliance of the respondents to the aforementioned indicators based on the four thematic areas of disaster risk reduction management program implementation.

The study found out that the status of implementation of the disaster risk reduction management program in terms of disaster prevention and mitigation obtained a weighted mean of 3.91 which denotes a verbal equivalent of “very effective” program implementation. In addition, the thematic areas on disaster preparedness, disaster response, and disaster recovery and rehabilitation respectively obtained composite means of 3.95, 3.74, and 3.76 all described as very effective program implementation and a corresponding high extent of compliance.

Also, as shown in the data presented in the table, it revealed that among the four risk reduction management indicators on the area of implementation, disaster preparedness, disaster management, disaster mitigation, response management and recovery management, it turned out that disaster preparedness has the highest mean of 3.95 denoting “very effective” program implementation descriptive equivalent rating while the area on disaster response obtained the lowest rating of 3.74. These findings clearly manifested that the school administrators are more focused on the disaster preparation than having perform their roles in response, recovery and rehabilitation management. This notion is affirmed by Campilla (2016) who stated that preparedness has been given more emphasis in order to reduce the casualties during the occurrence of calamities. These management procedures and practices aimed to lessen the amount of possible casualty whenever a disaster happens.

Moreover, concept of disaster preparedness is consist of measures that enable different units such as people, household, communities, organizations, groups and institutions to efficiently respond and quickly recover when disaster strike. Development of the planning process to ensure readiness, disaster plan formulation, storage of the resources needed for the effective response, skills and competencies development to ensure effective response, skills and competencies development to ensure effective performance of disaster-related tasks are among the commonly consolidated activities and programs with disaster preparedness. In addition to this, risk can be combated by disaster preparedness which is defined by the Department of Homeland Security (DHS) and FEMA as “a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action in an effort to ensure effective coordination during incident response” (DHS, 2015).

In affirmation, disaster preparedness has been considered the most effective among the four thematic areas or indicators of the disaster risk reduction management program implementation as the responsibility for disaster preparedness belongs to everyone and not just the government. According to UNESCO (2007), there is a positive correlation between a community’s knowledge and preparedness and their resiliency in the face of disasters (Rambau et al., 2012). Getting involved and taking ownership of one’s part in their own, as well as their family’s preparedness is important (Brooks, 2012). The importance of responsibility does not stop there:

to improve disaster preparedness and resiliency, all levels of government, individuals, families, the private sector, and communities must all play a role (Cutter, 2013).

The next thematic area which garnered the highest weighted mean of 3.91 denoting a “very effective” program implementation is disaster prevention and mitigation. In support, communities, states, and countries are trying to thwart the effects of a natural hazard from becoming a disaster by mitigating, preventing, and preparing for an event through the development and application of policies, strategies, and practices known as disaster risk reduction (DRR) (United Nations Office for Disaster Risk Reduction (UNISDR, 2010). According to the UNISDR, DRR is defined as “the concept and practice of reducing disaster risks through systematic efforts to analyze and reduce the causal factors of disasters” (UNISDR). The DRR approach identifies hazards and assesses risks; develops and applies practices that prevent, mitigate, prepare for, or recover from disasters; and evaluates the effectiveness of the current programs and strategies (Cutter, 2013). Accomplishing the DRR approach involves focusing on a community’s vulnerabilities. Once the disaster risk has been identified and assessed, the DRR approach is followed through by actions taken to minimize or reduce that disaster risk through mitigation or preventative measures (Tuladhar et al., 2015).

However, disaster response with a weighted mean of 3.74 has been the least implemented thematic area or indicator in the DRRM program as viewed by the school administrators. This can be attributed to how the communities’ efforts to further develop themselves are thwarted when they are tasked with spending money on response and recovery from a disaster. These funds are used to rebuild, often only to the level of the pre-existing condition that was already vulnerable; hence, these communities are frequently stalled in their efforts to improve and attempt to escape poverty.

In the end, livelihoods are destroyed, community assets and services are destroyed and in need of rebuilding, poverty has increased, and repopulation continues in pre-existing high-risk areas with no funds or plans to rebuild themselves into a more efficient or resilient community. Many communities are focused on bouncing back and returning to a pre-disaster sense of normal (Cutter, 2013).

In response to this dilemma, many researchers are pushing a new sense of thinking as to where the communities will look at future resiliency, and are working toward “bouncing forward not bouncing back” in order to create a new sense of normal (O’Brien et al., 2009; Manyena et al., 2011).

Table 6: Level of Capabilities of the Respondents

Indicators	$w\bar{x}$	Verbal Description
Capabilities in the Implementation of DRRMP		
Human Resources	3.96	High
Material Facilities	3.80	High

Knowledge, Innovation and Education	3.90	High
Policies, Plans and Procedures	3.85	High

Knowledge, innovation, and education garnered the next highest weighted mean among the indicators on the level of capabilities of the respondents. Hence, better understanding and education can assist people in finding ways to minimize the potential risks of a disaster. One way to minimize risk is planning. It is in educational planning where disaster awareness borrows the concept of starting with a vision that will bring change or benefit. The educational planner therefore develops a road map that will help bring the desired change.

Similarly disaster awareness involves identifying activities to be undertaken within the topic of disaster risk management. Schools with proper disaster awareness manage the disaster risks very well. It is incumbent to have the entire school community being directly engaged in learning about disaster preparedness and identifying solutions to protect the schools (Kay, 2013). Moreover, according to Grant (2012), disaster awareness in schools can be incorporated in institution through strategically posting safety rules, installing firefighting equipment, evacuation maintain buildings, conducting seminars on disaster awareness and entailing child-to-child peer education, the use of songs, electronic and print media, action learning and using science education as means to introduce studies of disaster risk.

Policies, plans and procedures which then obtained the weighted mean of 3.85 got the third highest rank as to the respondents' level of capabilities to respond to disasters and prevent further risks. In line with this, there is a great need to assess whether learners and educators are aware of the safety plans and are well prepared for any outbreak of disasters (Mamogale, 2011). According to UNESCO (2010), preparedness plans are dynamic ventures which need to be reviewed, modified, updated and tested on a regular basis. Active disaster preparedness includes developing comprehensive response plans, monitoring hazards threats, training emergency personnel, and training members of the communities at risk "to ensure the timely appropriate and effective delivery of relief". Lastly, the area on material facilities being the lowest in rank seems to be the most crucial because it needs financial allocation to provide the needed equipment in the school contexts (Ardalan, 2015; Merchant, 2015). Public schools will eventually find difficulty in this area considering there is no enough fund to be allocated in DRRM program especially in the provision of needed DRRM facilities, equipment and materials as compared to other programs, activities, projects of the Department of Education (DepEd) as to access, quality and relevance, and governance (Sala, 2019).

Area	r-value	Inter-pretation	p-value	alpha value	Decision	Interpretation
Status of Implementation	(Merge) 0.814	(Merge)	0.000	.05	Reject H_0	Significant

of DRRM and the Level of Capabilit ies among the Public School Adminis- trators		High Corr elati on				
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Tabular $r = 0.201$; $df = 94$; level of significance = 0.05

Table 7 presents the data in identifying the significant relationship between the status of implementation of DRRM and the level of capabilities among the public school administrators. As shown, the r -value of .814 shows a high correlation between the status of implementation and the level of capabilities among the public school administrators. Further, it showed significant correlation in which p value of 0.000 is less than the alpha which is .05. It implied that the hypothesis is rejected and a significant relationship is established. This means that the status of implementation of disaster risk reduction and management is affected by the level of capabilities among the public school administrators.

Further, the data indicate that all the computed r_s values are greater than the tabular value (0.201) at 5% level of significance and 94 degrees of freedom. This finding is enough evidence to reject the null hypothesis. This means that the higher the capabilities in the implementation of the DRRMP of the respondents considering the 5 areas (human resources; material facilities; knowledge, innovation and education; policies, plans and procedures; and capacities and mechanisms), the higher also is the status of implementation in terms of the following areas: disaster prevention and mitigation; disaster preparedness; disaster response; and disaster recovery. In addition, the degree of relationship of all the variables being paired is classified as strong.

The study finds out that the higher the capabilities of the public schools in the disaster risk reduction and management program implementation in terms of human resources through its DRRM Core Group lead by the school administrators, the higher also is the status of implementation in the areas of disaster prevention and mitigation; disaster preparedness; disaster response; and disaster recovery. This is supported by Mamhot (2019) who affirmed this statement through sharing the findings that human resources in DepEd Siquijor Province have high level of involvement in DRRMP through the establishment of the school disaster management committee in the grassroots level (disaster prevention and mitigation); organization of an assessment team to check all facilities for safety and security (disaster preparedness); direction, regulation, and activation of response mechanism by the DRRM team, rescuers and volunteers (disaster response); and conduct of trainings in line with the development programs for recovery among others.

Based on the findings of this study, for human resources, significant relationship with disaster prevention and mitigation shows the r_s value of 0.720, disaster preparedness shows the r_s value of 0.638, disaster response shows the r_s value of 0.786, and disaster

recovery and rehabilitation shows the r_s value of 0.798 which all implied that the hypothesis is rejected. This means that public schools' level of capabilities in terms of human resources' preparedness, responsiveness, and involvement affect the status of implementation of DRRM.

Catanus (2018) and Mamhot (2019) further supported this finding by saying that the respondents' assessments on the mentioned areas are more or less the same since the Philippine government at present focuses on disaster risk reduction (DRR). This move puts on more emphasis on the level of capabilities of the human resources in the implementation of DRRMP through strengthening people's capacity to take in stress, maintain core functions during a catastrophe, and recover from disasters. Thus, the M core team such as school heads, LGU responders, and coordinators shared the same commendable practices on the status of disaster prevention and preparedness as well as response and recovery with the establishment of such as schools and public offices (DepEd, 2008).

Hence, the implementation of DRRM plans and activities is encouraged at all levels. Both public and private sectors should be made aware of their roles and responsibilities in times of disasters. As Espinas (2013) and Bueza (2014) put emphasis, organized DRRM team should support the implementation of all thematic areas of disaster risk reduction and management.

It also proves that there is a significant relationship between the level of capabilities of public schools as to material facilities and all thematic areas of disaster risk reduction and management, wherein disaster prevention and mitigation shows the r_s value of 0.680, disaster preparedness shows the r_s value of 0.616, disaster response shows the r_s value of 0.739, and disaster recovery and rehabilitation shows the r_s value of 0.782 which all implied that the hypothesis is rejected. This is agreed by Lobaton (2018) who revealed that on the assessment of the different stakeholders as to their status of implementation of the DRRM Program and their level of capabilities in terms of material facilities, a significant relationship is established. As stated in the DRRM Manual, DepEd as the agency responsible for schools acknowledges that aside from providing primary education, the department is also responsible for providing safe teaching-learning facilities. It is also in charge in making a hazard-free environment to the school children (DepEd, 2008; DepEd nos. 87, and 120, 2015; DepEd nos.50, 2011).

Merchant (2015) also stressed that disaster awareness in schools, can be incorporated in institution through strategically posting safety rules, installing firefighting equipment, having evacuation exits, and maintaining buildings among others. Moreover, Catanus (2018) and Mamhot (2019) put emphasis on the importance of fire extinguishers, supplies in place, and necessary learning/ teacher/ school kits.

It also exhibits that there is significant relationship between the level of capabilities of public schools as to the area of knowledge, innovation and education and all thematic areas of DRRM program implementation, wherein disaster prevention and mitigation shows the r_s value of 0.736, disaster preparedness shows the r_s value of 0.680, disaster response shows the r_s value of 0.714, and disaster recovery and rehabilitation shows the r_s value of 0.706 which all implied that the hypothesis is rejected. It could be inferred that aside from the conduct of trainings and simulation exercises and customized and specialized DRRM capability building activities for specific groups like decision makers, responders, children, public sectors employees among others, there is also the development of DRRM information, education, and communication to increase communities' level of awareness and enhance capacity at all administrative levels.

This finding denotes that school administrators with more trainings implement the program better than those with less number of trainings affecting their accumulated knowledge and created innovations. Lobaton (2018) supports the significant result of this study which explains that relevant trainings attended impact the extent of implementation of the program. What matter most is their acquired knowledge and skills during basic training coupled with their commitment. The more trainings, the better implementation of the DRRM program is.

This further implies that courses, education, or trainings in disaster risk reduction has been part of the curriculum planning and implementation. In support, there is an integration of the DRRM in school curricula, textbooks, manuals as well as training modules and as Brook (2012) disclosed, to get more people involved, they should be provided with preparedness education.

Also, King and Tarrant (2013) stressed that important aspects of children's disaster education revolved on knowing the correct ways to prepare effective safety procedures. In addition, Tuladhar et al. (2015) disclosed that integrating disaster preparedness and disaster education into the curricula at school will reach its greatest concentration when its status allows the opportunity for information. In view thereof, Kay (2013) noted that it is incumbent to have the entire school community being directly engaged in learning about disaster preparedness and identifying solutions to protect schools. Moreover, United States Federal Emergency Management Agency (FEMA, 2013), states that schools may be seen as the ideal setting for the dissemination of risk-based educational programs. By giving the proper preparedness skills, learners can develop those skills and carry them into their adulthood. Hence, as Mamogale (2011) and Shaw et al. (2013) noted, there is a need to assess whether learners and educators are aware of the safety plans and are well-prepared for any outbreak of disasters for having a realistic awareness of potential events is crucial when motivating someone to follow through with the process of preparing. In line with the conduct of relevant training activities, Alexander (2010) noted that LGU DRRM responders are motivated to perform their jobs effectively and efficiently because of the national and local government provided them enough trainings and simulations on how to rehabilitate communities which experienced calamities. Moreover, Kenny (2012) disclosed that LGU DRRM responders highly initiate trainings for recovery programs like counseling, relief operations, and post disaster reports. This study also shared the findings that there is significant relationship between the level of capabilities of public schools as to the area of policies, plans and procedures and all thematic areas of DRRM program implementation, wherein disaster prevention and mitigation shows the r_s value of 0.717, disaster preparedness shows the r_s value of 0.633, disaster response shows the r_s value of 0.633, and disaster recovery and rehabilitation shows the r_s value of 0.674 which all implied that the hypothesis is rejected. It could then be inferred that there is an awareness building on DRRM and disaster preparedness for school communities through stakeholders' involvement in evacuation plans and drills, training in risk reduction for school officials and school community leaders, and having a so-called family preparedness plan completed at home by the learners and their childcare providers. In line with this, as contextualized in the school level, Catanus (2018) reveals the strong efforts given by public schools through having effectively communicated the DepEd Order No. 43 to all stakeholders at all levels.

This further implied that public schools in Bayawan City, Negros Oriental include DRRM Programs in their School Improvement Plan as well as develop contingency plans, outline plans, communication plans, and school evacuation plans. In support, the findings of Catanus (2018) and Mamhot (2019) that public schools in Negros Oriental and Siquijor Island have documented and tested preparedness for effective and efficient implementation and evaluation of DRRM programs.

In affirmation, Seneviratne et al. (2010) supports the significant result which explains that the extent to which SRDDMC coordinators and responders are prepared to respond to such circumstances is an immediate challenge and presents opportunities to coordinate an effort to plan for better rehabilitation proceedings. Being well prepared and actively ready to respond to a disaster will raise the level of public confidence in the ability of the SDRRMC to manage such development effectively. Although planning ahead is not an easy task, it is necessary to achieve positive results, and it is becoming more morally and economically essential after every event (Cutter, 2013). Preparing for disasters can reduce potential damage and save lives, which can assist in the speed and efficiency of recovery efforts (King & Tarrant, 2013). Moreover, planning and preparing for disasters is an ongoing process. An official plan should be written and be a living document (Brooks, 2012).

Therefore, planning and preparedness is a shared responsibility, and working together toward a common goal can assist in identifying needs and gaps in disaster education and preparedness. Efforts should be complimentary and should not work against each other (Cutter, 2013). Communication and collaboration among all parties helps to avoid the duplication of services, eliminates misinformation, and strengthens and expands the community's network in all phases of disaster management.

Finally, this study reveals a significant relationship between the level of capabilities of public schools as to the area capacities and mechanisms and all thematic areas of DRRM program implementation, wherein disaster prevention and mitigation shows the r_s value of 0.762, disaster preparedness shows the r_s value of 0.649, disaster response shows the r_s value of 0.699, and disaster recovery and rehabilitation shows the r_s value of 0.731 which all implied that the hypothesis is rejected. It implied that the higher the public schools' level of capabilities in terms of capacities and mechanism, the higher also is its status of implementation of disaster risk reduction and management practices. It could be further inferred that plans were prepared and training drills and rehearsals were done as part of disaster response programs stressing out the importance of strengthening the capacity bottom-up as a new paradigm. This finding is then supported by Yamada and Gala (2015) stating that helping people in a disaster situation is important but preventing disasters from happening is better. And although doing it takes time and work, its success will help communities withstand hazards, overcome vulnerability, and provide a sense of ownership both in the short and long run (Idawati et al., 2016). In the long run, strengthening capacity is about strengthening the possibility people have in influencing their own lives (Idawati et al., 2016). Although doing it takes time and work, its success will help communities withstand hazards, overcome vulnerability, and provide a sense of ownership both in the short and long run (Idawati et al., 2016).

Summary of Findings

The study determined the status of implementation of public schools' disaster risk reduction management program based on the four thematic areas as well as the level of capabilities among the public school administrators to respond in times of disasters and hazards in the public elementary and secondary schools of Bayawan City Division, Bayawan City, Negros Oriental, Philippines for S.Y. 2018-2019.

Moreover, the status of implementation of public schools' disaster risk reduction management programs to the four thematic areas were taken based on the adopted questionnaires from the National Risk Reduction and Management Plan. Each area has

long term goals and activities which will lead to the attainment of overall vision in DRRM. Also, the level of capabilities of the respondents was anchored on the Hyogo Framework of Action. In line with this, the SDRRM will be most effective if they are performing their functions and mandates. And as prescribed by the law, they should give priorities to all thematic areas, especially prevention and mitigation, and disaster preparedness to achieve the goals and objectives of RA 10121.

Conclusion

Below are the conclusions which have been based on the findings of the study:

1. As assessed by the school administrators, the Disaster Risk Reduction Management Program in the public schools of Bayawan City Division, Bayawan City, Negros Oriental, Philippines as to the four (4) DRRM Aspects: Disaster Prevention and Mitigation, Disaster Preparedness, Disaster Response, and Disaster Recovery and Rehabilitation is well-implemented.
2. As assessed by the school administrators, Public Schools of Bayawan City Division are very capable in the implementation of the disaster risk reduction management program as to human resources, material facilities, knowledge, innovation and education, policies, plans and procedures, and capacities and mechanisms.
3. Based on the above findings, there is a significant relationship or a high correlation between the status of implementation of disaster risk reduction management program in public schools and the level of capabilities among the public school administrators.

Recommendations

Based on the results and in the light of the findings and conclusions drawn, the following recommendations are proposed.

1. It would be better for school heads, DRRM coordinators, and team members as part of the core group to conduct regular meetings and monitoring for disaster mitigation measures. Also, for community to have access on effective and applicable disaster risk management, there is a great need to conduct research, develop new modalities and schemes leading to the mitigation and prevention of disasters, especially at the community level. Through this, their vulnerabilities are lessened through the options available for them.
2. To equip communities with the necessary skills and capability to cope with the impact of disaster, there should be disaster preparedness activities not only to establish arrangements to enable timely, effective, and appropriate responses to such events but also to identify and plan DRR strategies to address to imminent threat to lives and properties. Production and distribution of disaster-related paraphernalia (posters, pamphlets, leaflets, signages) printed in a local dialect as part of advocacy campaigns of public schools through its DRRM core group is encouraged for effective information dissemination to the school practitioners, community members and

other stakeholders. This would in turn motivate people to contribute on what they can do to prevent the adverse effects of certain disaster.

3. To address the psychological needs of the affected population, DRRM core groups should support the moral of the affected learners and community members through helping these victims cope with disasters. This could be done through developing and conducting psychosocial programs and/or referral systems and conducting of psychological stress debriefings. Hence, aside from ensuring the physical and mental wellness of disaster victims, it is equally important to attend to the psychosocial needs of the affected.

4. To promote a disaster and climate change resilient infrastructure in public schools, there should be an implementation of building code as well as conduct of monitoring and/or tracking of the approval of infrastructure projects and permits in learning institutions to promote the safety standards required for schools as well as the so-called environmental health control.

5. To have a high level of the capabilities by that of the Public Schools of Bayawan City Division in the implementation of the disaster risk reduction management program as to human resources, material facilities, knowledge, innovation and education, policies, plans and procedures, and capacities and mechanisms, all proposed programs, activities and projects related to disaster risk reduction should be anchored on the Hyogo Framework of Action which acknowledges the importance of all dimensions in disaster risk reduction and calls for the inclusiveness and engagement of all of the society for adequate capacity building measures in pre, during and post disaster situations.

Limitations of the Study

There are a number of limitations in this study. First, this is exclusive to the public schools of Department of Education-Bayawan City Division, Bayawan City, Negros Oriental. However, this study is not conclusive to all public schools across different locations and regions in the Philippines pertaining to its status of implementation and level of capabilities to respond to the Disaster Risk Reduction Management (DRRM) Program.

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Appendix

A

Research Questions Implementation of the Public Schools’ Disaster Risk Reduction Management Program and Level of Capabilities to Respond

Instructions: Please check the number that indicates the status of the implementation of the Disaster Risk Reduction Management Program of the Public Schools in Bayawan City Division, Bayawan City, Negros Oriental, Philippines as to the four (4) DRRM Aspects: *Disaster Prevention and Mitigation, Disaster Preparedness, Disaster Response, and Disaster Recovery and Rehabilitation.*

Refer to the guide below in choosing your option. It is important that you honestly answer each item. Please do not leave any item unchecked. Rest assured that your individual information will be treated with strict confidentiality.

	Code	Interpretation
Implemented (VWI) (WI)	5	Very Well
	4	Well Implemented
	3	Implemented (I)

(LI) 2 Less Implemented
 1 Not Implemented (NI)

A. Disaster Prevention and Mitigation	VWI (5)	WI (4)	I (3)	LI (2)	NI (1)
<i>What is the status of implementation of the following DRRM Programs in your school?</i>					
1. DRRM and CCA mainstreamed and integrated in national, sectoral, regional and local development policies, plans and budget					
2. DRRM and CCA-sensitive environmental management					
3. Increased disaster resiliency of infrastructure systems					
4. Community based and scientific DRR-CCA assessment, mapping, analysis and monitoring					
5. Communities have access to effective and applicable disaster risk financing and insurance					
6. End-to-End monitoring, forecasting and early warning systems are established and/or improved					
B. Disaster Preparedness	VWI (5)	WI (4)	I (3)	LI (2)	NI (1)
<i>What is the status of implementation of the following DRRM Programs in your school?</i>					
1. Increased level of awareness and enhanced capacity of the community to the threats and impacts of all hazards					
2. Communities are equipped with the necessary skills and capability to cope with the impact of disasters					
3. Increased disaster resiliency of infrastructure systems					
4. Developed and implemented comprehensive national and local preparedness policies, plans and systems					
5. Strengthened partnership and coordination among all key players and stakeholders					
C. Disaster Response	VWI (5)	WI (4)	I (3)	LI (2)	NI (1)
1. Well-established disaster response and relief operations					

2. Adequate and prompt assessment of needs and damages					
3. Integrated and coordinated Search, Rescue and Retrieval (SRR) capacity					
4. Evacuated safely and on time affected communities					
5. Temporary shelter and/or structural needs are adequately addressed					
6. Basic social services provided to affected population (whether inside or outside ECs)					
7. Psychosocial needs of affected population addressed					
8. Coordinated and integrated system for early recovery					
D. Disaster Rehabilitation and Recovery	VWI (5)	WI (4)	I (3)	LI (2)	NI (1)
1. Damages, Losses and Needs Assessed					
2. Economic activities restored and if possible, strengthened or expanded					
3. DRRM and CCA elements are mainstreamed in human settlement					
4. Disaster and climate change resilient infrastructure constructed/reconstructed					
5. An psychologically sound, safe and secured citizenry that is protected from the effects of disasters are able to restore to normal functioning after each disaster					

Instructions: Please check the number that indicates the level of the capabilities of the Public Schools of Bayawan City Division in the implementation of the disaster risk reduction management program as to: *Human Resources, Material Facilities, Knowledge, Innovation and Education, Policies, Plans and Procedures, and Capacities and Mechanisms.*

Code	Interpretation
(VMC) 5	Very Much Capable

- 4 **Very Capable (VC)**
3 **Capable (C)**
2 **Less Capable**
1 **Not Capable (NI)**

I. Human Resources	VMC (5)	VC (4)	C (3)	LC (2)	NC (1)
<i>To what level is the capability of your school in the implementation of the following DRRM Programs?</i>					
1. National policy and legal framework for DRR exists with decentralized responsibilities and capacities at all levels					
2. Dedicated and adequate resources are available to implement DRR plans and activities at all administrative levels					
3. Community participation and decentralization is assured through the delegation of authority and resources to local levels					
4. A platform for DRR is functioning					
II. Material Facilities	VMC (5)	VC (4)	C (3)	LC (2)	NC (1)
<i>To what level is the capability of your school in the implementation of the following DRRM Programs?</i>					
1. National and local risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors					
2. Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities					
3. Early warning systems are in place for all major hazards with outreach to communities					
4. National and local risk assessments take account of regional/trans boundary risks, with a view to regional cooperation and risk reduction					
III. Knowledge, Innovation and Education	VMC (5)	VC (4)	C (3)	LC (2)	NC (1)
<i>To what level is the capability of your school in the implementation of the following DRRM Programs?</i>					
1. Relevant information on disasters is available and accessible at all levels, to all stakeholders					
2. School curricula, education material and relevant trainings include DRR and recovery concept and practices					
3. Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened					

4. Countrywide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities					
IV. Policies, Plans and Procedures	VMC (5)	VC (4)	C (3)	LC (2)	NC (1)
<i>To what level is the capability of your school in the implementation of the following DRRM Programs?</i>					
1. DRR is an integral objective of environment related policies and plans, including for land use, natural resource management and adaptation to climate change					
2. Social development policies and plans are being implemented to reduce the vulnerability of populations at risk					
3. Economic and productive sectoral policies and plans have been implemented to reuse the vulnerability of economic activities					
4. Planning and management of human settlements incorporate DRR elements, including enforcement of building codes					
5. DRR measures are incorporated into post disaster recovery and rehabilitation processes					
6. Procedures are in place to assess disaster risks of major development projects, especially infrastructure					
V. Capacities and Mechanisms	VMC (5)	VC (4)	C (3)	LC (2)	NC (1)
<i>To what level is the capability of your school in the implementation of the following DRRM Programs?</i>					
1. Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place					
2. Disaster preparedness plans and contingency plans are in place at all administrative levels and regular training drills and rehearsals are held to test and develop disaster response programmes					
3. Financial reserves and contingency mechanisms are in place to support effective response and recovery when required					
4. Procedures are in place to exchange relevant information during hazard events and disasters and to undertake post event reviews					

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