



Research article

DISASTER RISK REDUCTION MANAGEMENT IMPLEMENTATION IN THE PUBLIC ELEMENTARY SCHOOLS OF THE DEPARTMENT OF EDUCATION, PHILIPPINES

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Abstract: This study evaluates the implementation of the Disaster Risk Reduction Management (DRRM) program in terms of disaster planning awareness and preparedness to respond during hazards to prevent disasters in public elementary schools in the Alfonso Lista District, Schools Division of Ifugao. A total of thirty-six (36) public elementary school heads and school disaster risk reduction management (SDRRM) coordinators served as respondents. The survey questionnaires patterned from the DepEd-DRRM Manual were utilized in the study. The weighted mean and the Spearman rank correlation coefficient were used as statistical tools. The findings of the study show that the district implemented safe learning facilities and environments; formed and managed a school-based DRRM; and that the DRRM program was integrated into the curriculum for the benefit of the pupils, personnel, parents, and stakeholders visiting the schools. It reveals that the people involved in implementing the DRRM program are fully prepared for the readiness of the school facilities while the disaster preparedness activities are still improving. The school personnel are aware of and do understand the DRRM program and activities. Furthermore, the extent of disaster preparedness of the elementary schools is significantly associated with the level of their DRRM implementation in terms of safe learning facilities and environment, school risk reduction management, and DRRM integration into learners' curricula. Moreover, the implementation of DRRM in the public elementary schools of the district is directly and significantly associated with the level of awareness and understanding of the involved personnel.

Keywords: Disaster Risk Reduction Management, disaster planning awareness, learners' curriculum, implementation, hazards

1. Introduction

The safety of learners is always of topmost concern in all schools. Safety precautions must be put in place at all educational establishments. Unfortunately, there have reportedly been significant disasters at several schools. Simatwa (2007) noted correctly that there has been an increase in the number of students dying or being hurt as a result of school violence, natural disasters, developing diseases, and emergencies that could have been averted if safety regulations were carefully followed. Aside from other issues and a growing problem like this global pandemic COVID-19 that affects children's education, the Philippines has been plagued by natural calamities including earthquakes, volcanic eruptions, and typhoons. The Philippines is the third-most disaster-prone country in the world, as determined by a study by Selected DRRM Organizations and CSO Coordination from April 2016, according to Joanino and Vargas (2021).

Thus, the government established the National Disaster Risk Reduction and Management Council as a result of Republic Act No. 10121, the Philippine Disaster Risk Reduction and Management Act of 2010, which was passed as a result of the government's recognition of the need to be more resilient and prepared in the event of disasters. Since 2007, the Philippines has started to mainstream disaster risk reduction into the education sector (Ocampo and Esplada 2020). The Department of Education prioritizes the mainstreaming of disaster risk reduction in the school system through the DepEd Order No. 55, s. 2017. Seemingly, Mukarram (2020) noted that goal 13 of the Sustainable Development Goals (SDG) makes it a priority to strengthen resilience to climate-related hazards, and education plays a crucial role in encouraging disaster preparedness. This is the rationale behind the strict implementation of the Disaster Risk Reduction Management (DRRM) Program at every school.

In the Department of Education, every institution has a specified role and responsibility in the implementation of DRRM as stipulated in DepEd Order No. 21, s. 2015. As DepEd's frontline service provider to the learners who are the major stakeholders, it states that schools will be the primary source of data. It was stated that, under the direction of the school administrators and the SDRRM Coordinators, schools should work to establish by ensuring the establishment of an Early Warning System such as bulletin board for weather advisories, IEC materials, a bell or siren emergency signal; secondly, conducting an annual student-led risk identification and mapping within and around the school; providing mental health, psychosocial support, or counseling services for teachers, non-teaching staff, and students on DRRM; maintain, disseminate, and post pertinent and updated emergency hotlines in strategic locations throughout the school and other conspicuous places in the community; posting of safety and preparedness memoranda; develop a team of DRRM experts at the school to support the implementation of preparedness and response measures. Ensure that the school's baseline education data is up to date; prepare and submit reports on any hazards' impacts; ensure that the guidelines on DepEd Order No. 43, series of 2012 through Executive Order No. 66 is followed; undertake rapid assessment of damages after each hazard and submit RADaR (Rapid Assessment of Damages Report); facilitate immediately resuming classes to track students; and monitor recovery and rehabilitation interventions being implemented in the school.

In the case of the thirty-four (34) schools of Alfonso Lista District, DRRM has been long implemented but as to how the different programs and activities towards the roles of the school administrators and SDRRM Coordinators specified in DepEd Order No. 21, s. 2015

have been executed, there is no evidence yet of proper implementation because the program has not been evaluated. It is in this premise that the researchers felt the need to conduct a research along this field to evaluate the extent of implementation of DRRM program in the schools of Alfonso Lista Districts and to provide evidenced-based results for a better execution of the roles and responsibilities of the School Administrators and SDRRM Coordinators as basis for the enhancement of implementation of the program so that eventually, the culture of safety will be developed among the pupils and the people in the community. This research is sought to determine how well the schools are prepared for a prospective earthquake disaster from the facet of the School Administrators and SDRRM Coordinators, based on the views of the School Administrators and SDRRM Coordinators; and to make recommendations towards effective disaster preparedness. One of the crucial roles required of school administrators and staff is to take measures to always ensure the safety of learners. Thus, there is a need to evaluate whether the herein said frontlines are aware of the safety plans and are well prepared for any outbreak of disasters in school. The study focuses on collecting data from the school through governing body safety representatives - the SDRRM Team.

1.1 Literature Review

The Department of Education (DepEd) envisions to protect and even promote the right of all citizens and to provide a child-friendly, gender-sensitive, safe, and motivating environment **for effective learning to happen, administrators and staff, as stewards of the institution must** adopt policies, systems, processes, and behaviors as well as initiate continuous improvement processes adapting to the changing needs of times. The internal stakeholders as the frontliners take important responsibilities and accountabilities to become major exponents to achieve safe learning schools and tasked to formulate, implement, and coordinate policies, plans, programs, and projects.

Over 20 million students in both private and public schools in the Philippines are affected by numerous catastrophes each year, and instruction is frequently severely disrupted, according to a report by the United Nations (Aronsson-Storrier 2021). The World Risk Report 2018 places the Philippines third among all nations with the highest risks globally in terms of disaster risk, with an index value of 25.14%. 74% of the population is at risk from the consequences of several hazards, which affect at least 60% of the country's total land area (Raza, et al., 2022). This is partly because of the country's position and geographic setting, which increase the risk of coastal hazards including typhoons and storm surges. The country is also situated within the "Ring of Fire," which puts the safety of the inhabitants at considerable risk from earthquakes and volcanoes. Additional natural disasters that increase the risk of exposure are floods, landslides, droughts, and tsunamis.

In the Earthquakes Hazard in CAR, Philippines, Sanchez (2020) as cited by Gumba et al., (2020) disclosed that Cordillera Administrative Region is a geologically hazardous because of its peculiar mountainous terrain. Benguet, Baguio City, Mountain Province, Ifugao, the mountainous parts of Abra and Kalinga, are also landslide-prone areas while the low-lying areas of Ifugao, Abra, Apayao and Kalinga are flood-prone. The City of Baguio alone as a major educational center in the region recorded 28 buildings and 132 residences damaged or destroyed. Two schools were severely damaged, trapping students and faculty members inside the building. The mountainous nature is contributory to the region's vulnerability to lots of disaster like rain-induced landslides and flashfloods and earthquakes.

In 2011, around eight (8) typhoons hit the Cordillera region wherein the most damaging typhoons were Mina, Pedring and Quiel (September 25- 27, 2011 and September 30 – October 1, 2011) respectively. All classes at all levels and government offices were suspended;

communications bogged down in Kalinga, Ifugao, Mt. Province, Abra and in some areas of Benguet and Apayao; most provinces in the region were isolated for almost a month due to damages on infrastructures. Four (4) died in Ifugao including 3 children due to fallen trees and landslide, 24 injured and 2 were missing (Asian Development Board, 2012).

Guevarra et al. (2007) suggested that every school implement a thorough training program on disaster preparedness in their study. It is important to create a disaster preparedness plan and to evaluate risks and weaknesses. It is true that having a school disaster management plan that is practical and effective will serve as a guide for all interested parties in constructing a secure and safe school. As the schools do their crucial roles, the community should join them. A case study in Iloilo City as cited by Alcayna et al. (2016) showed that community-driven DRR required strong social networks, alternative finance facilities, technical professional networks that support community processes, and community managed information. Bradley et al. (2016) as cited by Cayamanda (2018) disclosed the importance of proper communication and networking in the implementation of DRRM. Communication is a potentially valuable way of avoiding and reducing harm caused by disasters. It provides the public with information about the effects of an event and how actions may affect the outcome of the event. Hence, communication should be included while looking into the safety of learning facilities, school disaster management, and DRRM in education.

In the study of Jurilla (2016), she found out that there are municipalities and districts that were very effective in all aspects of their disaster risk reduction management in terms of preparedness and they recommended that municipal DRRMCO and members should conduct a review of their DRRPP and enhance the program by adopting flexible intervention activities in order to improve the different aspects of disaster preparedness.

Among the highest priority issues presented by the Disaster Risk Reduction in the Philippines are strengthening local institutional capacity for DRR, technical support from national agencies, academe and DRR professionals of Local Government Units are the most critical factors to aid in the tangible implementation of DRR actions at local level (UN Office for Risk Reduction, 2018). This entails proper and well coordination among the identified offices to be able to work together to reduce the negative impact of calamities. Additionally, it is essential to include local leaders and communities in the official DRR and CR infrastructure to sustain the mainstreaming of contextualized knowledge and to prevent top-down approaches to risk reduction. Additionally, a coordinated and thorough planning approach with a clear grasp of the connections between DRR stakeholders is required. The paper identified one of the major gaps as being caused by the scant attention and funding given to DRR research. It is essential to comprehend how different sectors of society will be affected by disasters and climate change to better protect society from their effects in the future. This can be done through enhancing knowledge availability through data collection and analysis. The relationships between society, environment, economy, and culture and their impacts are the focus of the DRR research (United Nation Disaster Risk Reduction, 2019). Studies on DRRM promotes critical thinking and problem-solving as well as social and emotional life skills that are essential to the empowerment of groups threatened or affected by disasters.

With all the citations above, there is really a need to evaluate the implementation of DRRM program not just in the community but in the schools being the frontline service provider to the learners as primary stakeholders.

1.2 Research Objectives

This research study aimed to evaluate the Disaster Risk Reduction Management (DRRM) Program implementation in schools. It sought to identify the capabilities of members of the

SDRRM Team in the implementation of the different activities under the DRRM Program by establishing the extent of disaster planning awareness and level of preparedness in public elementary schools of Alfonso Lista Districts I & II. The objectives of this study were guided by the following research questions: 1) What is the level of implementation of the Disaster Risk Reduction Management Program of the schools in terms of: 1.a) Safe Learning Facilities & Environment; 1.b) School Disaster Risk Reduction Management; and 1.c) DRRM Integration in the Curriculum? 2) What is the extent of disaster preparedness in elementary schools in Alfonso Lista District I & II in terms of: 2.a) Persons Involvement; 2.b) School Facilities; and 2.c) Disaster Preparedness Activities? 3) What is the degree of awareness and understanding of elementary schools on DRRM program and activities? 4) Is there a significant relationship on the level of implementation of DRRM in the elementary schools of Alfonso Lista and their extent of disaster preparedness? 5) Is there a significant relationship in the level of implementation of DRRM in the elementary schools of Alfonso Lista and their degree of awareness and understanding?

2. Methodology

This study used the descriptive comparative to answer the questions on the level of implementation and the degree of awareness and understanding of the Disaster Risk Reduction Management Program. The correlation method was used in this research to test the relationship between the level of implementation of DRRM programs, the extent of disaster preparedness, and the degree of awareness and understanding of the elementary schools. The respondents of this study were the thirty-six (36) elementary School Heads and School DRRM Coordinators from public elementary schools' respondents who have been in the service for at least 6 months to 1 year as a member of the School DRRM Team of Alfonso Lista District. The questionnaire checklist (online or offline) that was used in this study aimed at drawing out proper responses relative to the objectives of this study and was patterned and lifted from the School Disaster Risk Reduction and Management (DRRM) Manual developed by the Department of Education and DepEd Order No. 37, s. 2015. The Comprehensive Disaster Risk Reduction and Management (DRRM) In Basic Education Framework, DepEd Order No. 21, s. 2015. Disaster Risk Reduction & Management Coordination and Information Management Protocol and DepEd Order No. 23, s.2015, DepEd- Student-led School Watching and Hazard Mapping Checklist. It was modified to suit the study. The main tool that was used in this study is a questionnaire checklist. To be able to describe the different DRRM variables under study, the following statistics have been used: The weighted mean was computed to determine the level of implementation of the DRRM Program, the extent of disaster preparedness, and the degree of awareness and understanding of DRRM programs and activities; Pearson r is also used to determine if there is a significant relationship between the level of implementation of DRRM in the elementary schools of Alfonso Lista and their extent of disaster preparedness, and the level of implementation of DRRM in the elementary schools of Alfonso Lista and their degree of awareness and understanding.

A permit to conduct the research was secured by requesting a letter of permission from the Schools Division Superintendent through the Public Schools District Supervisor. Data gathered from answered questionnaires was checked, classified, tabulated, and analyzed according to the research design described in this chapter. The researcher first sought approval for the conduct of this research from the proper authorities. After getting approval, the researcher met with the 54 school heads and designated school DRRM coordinators in coordination with the Public Schools District Supervisor of their participation in the study. More-

over, the data gathered from the respondents was treated with the utmost confidentiality. To guarantee the safety of the research participants throughout the research procedure, ethical concerns were taken into consideration with the strictest discretion. To prevent coercion into participation, respondents have the freedom to participate voluntarily and to revoke their consent at any time. For them to comprehend the nature of the research and how it can affect their participation, the respondents in this study have a right to know the study's objective. All personal information was handled confidentially.

3. Findings and Discussions

Level of implementation of the Disaster Risk Reduction Management Program of the Schools

Table 1 shows the implementation level of the DRRMP in terms of safe learning facilities and the environment. Results reveal that, in general, the schools' implement safe learning facilities and an environment with an overall weighted mean of 3.08. This means that the school heads and the designated school DRRM coordinators do follow the IATF rulings for safe facilities and environmental conditions to avoid the spread of the deadly coronavirus. The schools fully implemented the maintenance, dissemination, and posting of relevant and updated emergency hotlines in strategic locations throughout the vicinity, as revealed by the weighted mean of 3.44. This goes with the provision of the Department of Education and other donors providing the fund for the needed signage and posters.

The posting of safety and preparedness measures and evacuation plans is implemented as revealed by the weighted mean of 3.06. This means that safety precautions and reminders are posted in visible and strategic places. Also, in cases where an emergency arises, an evacuation plan is provided to guide the individuals to be safe away from obliteration. Aside from the posters for safety measures, the schools ensure the establishment of an early warning system that is rated at 2.97, which means that it is being implemented. Moreover, the schools implement the maintenance of the safekeeping of vital school records and learning materials and pre-identify the possible Temporary Learning Spaces (TLS) and alternative delivery modes of education as shown by the weighted means of 3.03 and 2.89, respectively. The above result jives with the study of Comighud (2020), that the DRRM is well implemented in ten (10) districts of Bayawan City Division, Negros Oriental. It implies that school heads and teachers are implementing the disaster risk reduction program to avoid casualties among the learners and school employees as well.

Table 1. Implementation Level of the DRRM Program of the schools in terms of Safe Learning Facilities & Environment

PARAMETERS	WEIGHTED MEAN	QUALITATIVE INTERPRETATION
1. Ensure the establishment of an Early Warning System:	2.97	Implemented
2. Maintain the safekeeping of vital school records and learning materials	3.03	Implemented
3. Pre-identify possible Temporary Learning Spaces (TLS) and alternative delivery modes of education	2.89	Implemented
4. Posting of safety and preparedness measures and evacuation plans	3.06	Implemented
5. Maintain, disseminate, and post relevant and updated emergency hotlines in strategic locations throughout the school	3.44	Fully Implemented
OVERALL WEIGHTED MEAN	3.08	Implemented

Table 2 presents the implementation level of the DRRM Program in terms of school DRRM. Generally, the schools in the Alfonso Lista District fully implemented the formation and management of school DRRM as revealed by the overall weighted mean of 3.32. Each school in the district established a DRRM team to assist in the implementation of preparedness and response measures (WM = 3.33), monitor the effects of hazards, including the use of the school as an evacuation center (WM = 3.33), keep track of all school personnel during emergencies and/or disasters (WM = 3.42), prepare and submit reports on the effects of any hazard (WM = 3.28), and ensure DepEd Order No. 43 is properly implemented (WM = 3.56), “conduct RADaR” (rapid assessment of damages report) (rapid assessment of damages report) after each hazard” (WM = 3.47), “enable immediate resume of classes to track learners” (WM = 3.33), and “conduct rapid assessment of damages after each hazard” (WM = 3.33). To ensure the availability of updated baseline education data for the school (WM = 3.22), the schools implemented maintenance of close coordination with the local BDRRM Council on the conduct of preparedness activities and on response needs, among others (WM = 3.14), and integrated DRRM into regular school programs and activities as well as the School Improvement Plan (SIP) (WM = 3.06).

PARAMETERS	WEIGHTED MEAN	QUALITATIVE INTERPRETATION
1. Organize school DRRM team to support the implementation of preparedness and response measures	3.33	Fully Implemented
2. Maintain close coordination with local BDRRM Council on the conduct of preparedness activities and on response needs, among others	3.14	Implemented
3. Ensure the availability of updated baseline education data of the school	3.22	Implemented
4. Integrate DRRM in regular school programs and activities and School Improvement Plan (SIP)	3.06	Implemented
5. Monitor the effects of hazards, including the use of the school as evacuation center	3.33	Fully Implemented
6. Track all school personnel during disasters and/or emergencies	3.42	Fully Implemented
7. Prepare and submit reports on the effects of any hazard	3.28	Fully Implemented
8. Ensure implementation of DO No. 43, s. 2012 or the “Guidelines on the Implementation of Executive Order No. 66, s. 2012 (Prescribing Rules on the Cancellation or Suspension of Classes and Work in government Offices Due to Typhoons, Flooding, other Weather Disturbances and Calamities)”	3.56	Fully Implemented
9. Conduct rapid assessment of damages after every hazard and submit RADaR (Rapid Assessment of Damages Report) to hotline numbers	3.47	Fully Implemented
10. Facilitate immediate resumption of classes to track learners	3.33	Fully Implemented
11. Monitor recovery and rehabilitation interventions being implemented in the school	3.33	Fully Implemented
OVERALL WEIGHTED MEAN	3.32	Fully Implemented

Table 3 presents the implementation level of the DRRM Program in the schools in terms of DRRM integration into the curriculum. The schools implemented the DRRM Program by integrating it into the curriculum, as revealed by the overall weighted mean of 3.09. This implies that the school head values prevention over cure by letting the teachers, staff, and learners be ready and prepared when disaster strikes. The school DRRM coordinators’ responses, with a weighted mean of 3.42, demonstrated that the schools fully implemented the conduct of disaster preparedness measures, including but not limited to quarterly multi-hazard drills appropriate to the school’s specified hazards, such as earthquakes, fire, and floods. This could be verified by schools’ activities by implementing the integration of DRRM in the lesson plans (WM = 3.11), initiation of an innovative work plan for DRRM advocacy (WMK = 2.92), preparation and provision of teaching materials and modules for DRRM lessons (WM = 2.94), and providing capacity building for teachers, non-teaching staff, and learners on DRRM (WM = 3.00). Schools also implement the conduct of annual student-led risk identification and mapping within and around the school premises to ensure a safe environment that is conducive to teaching and learning with a weighted mean of 3.17. In relation, the study of Kanyasan et al. (2018) showed that schools having DRRM integrated with the curriculum must have an evaluation to have better implementation as the years go by. Hence,

the DRRM work plan must be reviewed regularly to ensure that the implementation is conducted with the right quantity, quality, and timeliness.

Table 3. Implementation Level of DRRM Program of the schools in terms of DRRM integration in the curriculum

PARAMETERS	WEIGHTED MEAN	QUALITATIVE INTERPRETATION
1. Conduct an annual student-led risk identification and mapping within and around the school premises to ensure a safe environment that is conducive to teaching and learning	3.17	Implemented
2. Provide capacity building for teachers, non-teaching staff and learner on DRRM	3.00	Implemented
3. Conduct disaster preparedness measures, including but not limited to quarterly multi-hazard drills applicable to school's identified hazard such as earthquake, fire and floods	3.42	Fully Implemented
4. Integrate DRRM in the lesson plans	3.11	Implemented
5. Prepare/Provide teaching materials, modules for DRRM lessons	2.94	Implemented
6. Initiate innovative work plan for DRRM advocacy	2.92	Implemented
OVERALL WEIGHTED MEAN	3.09	Implemented

Extent of Disaster Preparedness in the public elementary schools In Alfonso Lista District I & II

Table 4 presents the extent of disaster preparedness in public elementary schools in terms of the number of people involved. As revealed by the overall weighted mean of 3.42, the elementary schools of the Alfonso Lista District are fully prepared when disaster strikes with the full support of their stakeholders. It can be gleaned from the table that the involved stakeholders are fully prepared, to wit: school heads (WM = 3.53), SDRRM Coordinators (WM = 3.53), other teaching personnel (WM = 3.53), non-teaching personnel (WM = 3.39), learners (WM = 3.25), local government unit (WM = 3.61), and other outside stakeholders (WM = 3.36). The result is due to the pledge of the people working in the government to serve and protect their clients, which made them fully prepared. For the learners to be fully prepared. This is because of the learning where the DRRM is integrated into their curriculum as being implemented in the schools. On the other hand, parents are just as prepared, as revealed by the response weighted mean of 3.14. This could be associated with their fear of some parents not readily being near the school where their loved ones, the school children, are present and could be one of the victims when disaster happens.

Table 4. Extent of disaster preparedness in public elementary schools in Alfonso Lista District I & II in terms of Persons Involvement

PERSONNEL INVOLVED	WEIGHTED MEAN	QUALITATIVE INTERPRETATION
School Head	3.53	Fully Prepared
SDRRM Coordinator	3.53	Fully Prepared
Other Teaching Personnel	3.53	Fully Prepared
Non-Teaching Personnel	3.39	Fully Prepared
Learners	3.25	Fully Prepared
Parents	3.14	Prepared
LGU	3.61	Fully Prepared
External Stakeholders	3.36	Fully Prepared
OVERALL WEIGHTED MEAN	3.42	Fully Prepared

Table 5 shows the extent of disaster preparedness in terms of school facilities. The result showed that the elementary schools are prepared when disaster comes as to school facilities, with a 2.87 overall rating. This is true since the area experiences a passage of typhoons yearly, so the school heads and school DRRM coordinators are always reminded to ensure the safety of the learners as well as other important facilities, particularly the ICT. The schools have DRRM Corners in school and/or in classrooms and contingency plans for earthquakes,

typhoons, landslides, fires, and the like, as revealed by a weighted mean of 3.11 and 3.00, respectively. Furthermore, an evacuation plan for every school is prepared with a rating of 3.00. This could be supported by the placement of proper signage on classrooms and school premises with a rating of 3.11. Part of the signage leads to the evacuation center that is available and prepared with a rating of 2.97. Furthermore, emergency supplies and equipment are prepared, which include first aid kit, a fire extinguisher, etc. with a rating of 2.81. The presence of a safe exit ladder on a two-storey building or more is applied to limited schools wherein this shows some preparedness for the safety of the evacuating individuals as revealed by the weighted mean of 2.28. This means that the heads of the schools with second floors or higher must plan to ensure that the safe exit ladder is strategically placed to be fully prepared in times of disasters.

Consequently, there is a family earthquake preparedness plan and a student-family reunification plan as revealed by the weighted mean of 2.78. Also, to ensure the continuous and consistency of learning by the learners, the schools are prepared with ancillary facilities or temporary learning spaces with a weighted mean rating of 2.69.

Table 5. Extent of disaster preparedness in public elementary schools in Alfonso Lista District I & II in terms of School Facilities

PARAMETERS				WEIGHTED MEAN	QUALITATIVE DESCRIPTION
Contingency Plan (Earthquake, Typhoon, Landslide, Fire, etc.)				3.00	Prepared
Evacuation Plan				3.00	Prepared
Family Earthquake Preparedness Plan and student-family reunification plan				2.78	Prepared
Proper signages on classrooms and school premises				3.22	Prepared
Presence of safe exit ladder on two-storey building or more				2.28	Partially Prepared
Emergency supplies and equipment (first aid kit, fire extinguisher etc.)				2.81	Prepared
Presence of ancillary facilities or temporary learning space				2.69	Prepared
Availability of Evacuation Center				2.97	Prepared
Presence of DRRM Corner in school and/or on classrooms				3.11	Prepared
OVERALL WEIGHTED MEAN				2.87	Prepared

Table 6 reveals the extent of preparedness for disaster preparedness activities. It could be gleaned from the table that, overall, the schools are prepared for a possible disaster that will happen, as revealed by the 2.85 weighted mean. It could be noted that the elementary schools in Alfonso Lista are partially prepared for flood evacuation drills with a 2.44 weighted mean. This could be because most schools are situated in elevated areas that are not prone to flooding. Nevertheless, some schools still have flood evacuation drills for the benefit of learners who live in flood-prone areas. Further, the schools are prepared for lockdown and fire drills as revealed by the responses with a weighted mean of 2.53 and 3.00, respectively. This is associated with the reality that schools have had lockdown and fire drill experiences. The lockdown was just recently experienced due to the pandemic, and most of the schools have experienced or witnessed fire incidents that alarmed them, leading to preparation through drills. Consequently, as to earthquake drills, the schools are fully prepared with a weighted mean response of 3.42. This implies that the schools are implementing the quarterly school head earthquake drills on specified dates based on schedules. Earthquake school heads and fire events have been experienced in many places that the school heads and SDRMM Coordinators of Alfonso Lista considered to be prepared for the safety of the majority, if not all, of the learners and workers as well.

Table 6. Extent of disaster preparedness in elementary schools in Alfonso Lista District I & II in terms of Disaster Preparedness Activities

ACTIVITIES	WEIGHTED MEAN	QUALITATIVE DESCRIPTION
Earthquake Drill	3.42	Fully Prepared
Flood Evacuation Drill	2.44	Partially Prepared
Fire Drill	3.00	Prepared
Lockdown Drill	2.53	Prepared
OVERALL WEIGHTED MEAN	2.85	Prepared

Degree of Awareness and Understanding of Elementary Schools on DRRM Programs and Activities

Table 7 shows the degree of awareness and understanding of elementary schools in Alfonso Lista about DRRM programs and activities. Generally, the teachers are aware of and do understand the DRRM program and activities, as revealed by the response overall weighted mean of 3.04. This could be the outcome of the implementation of capacity building for the teachers, staff, and learners in the schools as shown in Table 3. The respondents of this study are aware of and understand the disaster preparedness framework (WM = 3.22), vulnerability assessment (WM = 2.97), the importance of planning (WM = 3.14), the alignment of the institutional framework (WM = 3.06), resource base (WM = 2.86), the essentiality of warning systems (WM = 3.00), response mechanisms (WM = 3.00), public education and training (WM = 3.06), and rehearsals (WM = 3.00).

The respondents' responses manifested that they are aware of and do understand all the above-cited programs and activities. Firstly, the respondents have been oriented and some have attended seminars and webinars on DRRM. Secondly, this could be attributed to the reality that Alfonso Lista, Ifugao is a pass of disasters like typhoons every year and every summer, fire hits the pasture grassy lands. The incidents led the respondents to understand the need for courses of action to be undertaken to ensure the safety and security of the learners and workers at the school.

Table 7. Degree of awareness and understanding of elementary schools on DRRM program and activities

PROGRAMS AND ACTIVITIES	WEIGHTED MEAN	QUALITATIVE INTERPRETATION
Disaster Preparedness Framework	3.22	Understand
Vulnerability Assessment	2.97	Understand
Planning	3.14	Understand
Institutional Framework	3.06	Understand
Resource Base	2.86	Understand
Warning systems	3.00	Understand
Response mechanisms	3.00	Understand
Public education and training	3.06	Understand
Rehearsals	3.00	Understand
OVERALL WEIGHTED MEAN	3.04	Understand

Significant Relationship on the Level of Implementation of DRRM in the Elementary Schools of Alfonso Lista and their Extent of Disaster Preparedness

Table 8 presents the level of implementation of DRRM and its relationship with the extent of disaster preparedness. Statistical results show that the implementation of Safe Learning Facilities and Environment is significantly correlated to the disaster preparedness of the re-

spondents as to people involved in DRRM ($r(34) = .588, p.001$), school facilities ($r(34) = .752, p.001$), and disaster preparedness activities ($r(34) = .471, p = .005 = .005$). This implies that as long as the people involved are prepared with the school facilities and activities related to disasters, the implementation of the safe learning facilities and environment jives with it. School risk reduction management implementation is significantly correlated to the disaster preparedness of the people involved ($r = .778, p.001$) and school facilities ($r = .667, p.237$). people

The statistical results reveal that the implementation of the DRRM integration in the curriculum shows a significant relationship with the people's involvement in disaster preparedness as revealed by $p.001$, and by $r(34) = .606, p.001$, and the school facilities with $r(34) = .675, p.034$. This is consistent with the research conclusions of Rambau et al. (2012) that expanded teaching of dangers and disasters to students is essential. Therefore, incorporating DRRM into the curriculum of students is one way to reduce the number of victims in disasters.

Table 8. Level of implementation of DRRM in the elementary schools of Alfonso Lista and their extent of disaster preparedness

DRRM Implementation Level	Extent of Disaster Preparedness		
	Persons Involvement	School Facilities	Disaster Preparedness Activities
Safe Learning Facilities & Environment	.5877* ($p < .001$)	.7525* ($p < .001$)	.4707* ($p = .005$)
School Risk Reduction Management	.7782* ($p < .001$)	.6671* ($p < .001$)	.2085 ^{ns} ($p = .237$)
DRRM Integration in the Curriculum	.6057* ($p < .001$)	.6752* ($p < .001$)	.3940* ($p = .034$)

*Significant at 5% ns- not significant at 5%

Significant Relationship in the Level of Implementation of DRRM in the Public Elementary Schools of Alfonso Lista and their Degree of Awareness and Understanding

Table 9 presents the level of implementation of DRRM and its association with the degree of awareness and understanding. The result shows that the implementation of safe learning facilities and the environment of the schools has a significant relationship with the degree of awareness and understanding of the school personnel as revealed by $r(34) = 0.6580, p = 0.001$. This means that the stakeholders' awareness and understanding of disaster management is significantly associated with the implementation of safe learning facilities and the environment of the elementary schools of the Alfonso Lista District. It clearly shows that the awareness and understanding of the involved people in DRRM is directly applied to the needed implementation of a safe learning facility as well as to the vicinity of the schools.

As to the school risk reduction management, it reveals that there is also a moderate positive correlation with the awareness and understanding of the involved personnel, with $r(34) = -0.6962, p = 0.001$, which is significant. This may be due to the oneness of decision made despite the difference in culture, experience, strategy, and point of view of the involved personnel on the management of the risk of occurring when disaster happens. Thus, the awareness and understanding of the involved personnel in the DRRM of the schools has a significant relationship with their risk reduction management.

Furthermore, the awareness and understanding of the involved personnel in disaster management in the elementary schools of Alfonso Lista has a moderate positive correlation with DRRM integration in the curriculum with $r(34) = -0.6362, p = 0.001$. This implies that there is a significant relationship between the involved personnel and the DRRM integration in the curriculum due to the fact that the curriculum is being cascaded down from top management. Thus, the personnel in-charge of the formulation of the content of the curriculum

considers the integration of the DRRM for the benefit of the learners. This means that the curriculum cascaded down to schools that are not integrated with the DRRM part is also being added by the teacher in-charge with risk reduction management through a contextual approach.

Table 9. Level of implementation of DRRM in the elementary schools of Alfonso Lista and their degree of awareness and understanding

DRRM Implementation Level	Awareness and understanding	Interpretation
Safe Learning Facilities & Environment	.6580* ($p < 0.001$)	Moderate Positive Correlation
School Risk Reduction Management	.6962* ($p < 0.001$)	Moderate Positive Correlation
DRRM Integration in the Curriculum	.6362* ($p < 0.001$)	Moderate Positive Correlation

*Significant at 5%

In corroboration, the DepEd Order 37 series of 2015 stated that to access quality governance in education, there are three pillars to be protected, such as safe learning facilities, school disaster management, and DRR in education. This is aligned to the global Comprehensive School Safety Framework and Republic Act 10121 that focuses on prevention and mitigation, preparedness and response, rehabilitation and recovery. Thus, all public school employees need to be aware of the DRRM services of the Department of Education to be able to implement its content in their respective schools.

4. Conclusions and Recommendations

It can be deduced that the public elementary schools in Alfonso Lista implemented safe learning facilities and environments; formed and managed a school-based DRRM; and the DRRM Program was integrated into the curriculum for the benefit of the pupils and all stakeholders visiting the vicinity. The people involved in implementing the DRRM program are fully prepared for the readiness of the school facilities and disaster preparedness activities that are still improving. Furthermore, school personnel are aware of and do understand the DRRM program and activities. Moreover, the extent of disaster preparedness is significantly associated with the level of their DRRM implementation in terms of safe learning facilities and environment, school risk reduction management, and DRRM integration into learners' curriculum. Hence, the implementation of DRRM is directly and significantly associated with the level of awareness and understanding of the involved personnel. Following recommendations on the conclusions, the following are made: all implemented DRRM programs and activities should have a regular or annual evaluation to study needed improvements to attain full implementation for each parameter. While to enhance the preparedness of the facilities and activities being conducted, linkage with other government agencies for training and upgrading of the facilities is needed. Also, partnerships with private business firms could be a solution through their social responsibility programs and projects. Due to climate change that causes hazards and disasters, school officials should program annual DRRM training that could upgrade the employees' understanding of disaster prevention and mitigation measures. The disaster preparedness activities of the schools should be enhanced through more frequent drills to match the implementation of risk reduction management. Lastly, the schools' personnel need to be more capacitated through upgraded training on DRRM as well

as the school facilities must be upgraded to be fully prepared for any disaster that may happen at any time in the future.

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