



Original Research Article

Awareness, compliance and implementation of disaster risk reduction and management in flood-prone public elementary schools in Butuan city, Philippines

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The paper's primary intention was to identify the level of awareness, compliance, and implementation of the Disaster Risk Reduction and Management (DRRM) of the flood-prone public elementary schools in the division of Butuan City, Philippines in the school year 2019-2020. Moreover, it also aimed to determine the relationship between the level of awareness and the level of compliance of the teachers in the DRRM program, particularly in flood disasters, and its consistency in the level of implementation as a basis for a localized intervention plan by utilizing mixed method design. Survey questionnaires were administered among the randomly selected 562 participants to obtain information on the study. The numerical data were analyzed using the descriptive-correlational method through the weighted mean and Pearson Product Moment Correlation and an inductive type of thematic analysis for the qualitative part. The results revealed that the participants have very satisfactory awareness in the fields of enabling environment, safe learning facilities, disaster risk management, and risk reduction and resilience education and have shown satisfactory compliance in the same fields. The implementation of the flood DRRM was satisfactory. Thus, it further showed that the level of awareness and the level of compliance has a significant relationship but none of them has a significant relationship with the level of implementation. Findings indicated that flood DRRM is not emphasized in the schools. It was concluded that giving focus on school DRRM and conduct of relevant flood DRRM activities are important to establish flood resilience in schools.

Keywords: Awareness, compliance, disaster risk reduction, implementation, flood-prone elementary schools

INTRODUCTION

Floods impact both individuals and communities and have social, economic, and environmental consequences. The consequences of floods, both negative and positive, vary greatly depending on the location and extent of flooding, and the vulnerability and value of the natural and constructed environments they affect (The State of

Queensland, 2018). It is a must for societies to improve measures to prevent the hazards of the occurrence of floods. Empowering society to be flood-resilient is now a concern to the government. In 2005, Hurricane Katrina, one of the most destructive and costliest disasters, ranked sixth overall in the strength of recorded Atlantic hurricanes

(Zimmermann, 2015). During the Hurricane, the city of Orleans was at disadvantage for the region sits in a natural basin, and some of the city is below sea level so is particularly prone to flooding. More than a decade after the storm, both physical and culturally, the damage was so extensive that some pundits argued that New Orleans should be permanently abandoned (Gibbens, 2019). The Philippines is no stranger to the power of tropical storms. Thus, it was not prepared for the devastating effects of Typhoon Yolanda, which was one of the strongest storms ever recorded. The Philippines is comprised of over 7,000 islands, leaving the country particularly vulnerable to strong winds and storm surges. A vast number of inhabitants live in areas with poor infrastructure and housing, which made Typhoon Yolanda especially dangerous. In the wake of Yolanda's destruction, thousands lost their lives, 4.1 million people were left displaced from their homes, and 6 million workers were left without means to support their livelihood (Stamperdahl, 2016) Butuan City-Caraga Region, Philippines is not exempted in flooding since the majority of its land situates in low elevation (BCDRRMC, 2011). Butuan City, with a population of 309,709, was one of the most affected areas by flooding caused by heavy rainfall brought about by Agaton in early 2018. At least 46 villages were flooded, affecting 4, 438 families with at least 13, 752 individuals (Manlupig, 2014). Butuanons also evacuated amid floods after the Agusan River overflowed due to heavy rains brought about by low-pressure area and the tail end of a cold front on January 2017. Local officials reported that a total of 2,751 families from 17 barangays were evacuated because of the floods (Cultura, 2017). The flood's occurrence is indeed natural and uncontrollable but the effect of the flood can be lessened through careful and systematic planning. UNISDR (2017) pointed out that the need to combat the perennial problem of floods and resultant destruction has been a forefront concern for most nations, which calls for a proactive approach to establishing a disaster risk reduction regime for safer and sustainable development.

The Republic Act 10121 also known as "The Philippine Disaster Risk Reduction and Management Act" acknowledges the need to adopt a disaster risk reduction and management approach that is holistic, comprehensive, integrated, and proactive in lessening the socio-economic and environmental impacts of disasters including climate change and promote the involvement of participation of all sectors and all stakeholders concerned, at all levels, especially the local community. The education sector is one of the most vulnerable sectors during disasters and emergencies (SDRR Manual, 2012). It is among those that often suffer the impacts of disasters brought about by natural and human-induced hazards. This is the reason why DepEd Division Memo no. 87 s. 2015 was issued to call for seminar workshops, training, and lectures for teachers, administrators, and children through the Technical Working Group to be disaster-prepared and RA 10121 which strengthens the DRR management of schools. This measure was made to ensure that the effect of the flood in

schools will lessen and the risk to children will decrease. There were only limited studies about school DRRM in the Philippines despite its reputation as a disaster-prone country. In the case of Butuan City as a catch basin of Caraga Region and situated in a below sea level location, the need to come up with the study is inevitable. This urged the researchers to conceptualize the study which aimed to identify the extent of the implementation of the Disaster Risk Reduction and Management program in schools. The researchers would also like to find out the schools' level of awareness, level of compliance, and level of implementation. Moreover, they also aimed to determine the relationship among the aforementioned variables. The results of which will be used as a basis for crafting a localized intervention plan. The study hopes to benefit the school stakeholders specifically the school children who are considered the most vulnerable during disasters and emergencies.

METHODOLOGY

The design used in the study was a mixed method. Creswell (2011) pointed out that as a method, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Furthermore, he noted that the method provides a better understanding of research problems than either approach alone. The study specifically utilized a descriptive-correlational method for the numerical part which described the participants' level of awareness, level of compliance, and level of implementation of the DRRM program and it intends to find out whether or not there is a relationship among the following variables: the level of awareness, the level of compliance, and the level of implementation. Weighted mean and Pearson-r were used to analyze the quantitative data. For the qualitative part, the study utilized the inductive type of thematic analysis through Quirkos.

The study was conducted in flood-prone public elementary schools which particularly involved 562 participants in Butuan City Division, Agusan del Norte, Caraga Region, Philippines. Butuan City, known as "Timber City" is located in the Northeastern part of the Agusan Valley, Mindanao, sprawling across the Agusan River. It is known for its wide and long river called Agusan River. During the time when the river overflows, the floodwater gets inside the house to the extent that only roofs can be seen. In times of storms in Butuan, many barangays get flooded easily due to their geographical location and proximity to Butuan Bay. Some barangays lie in the low area of the city and are close to rivers and streams that make them prone to flood.

The study employed probability sampling design particularly simple random sampling and only the flood-prone public elementary schools were included in the study. Weighted mean and Pearson-r were utilized to analyze the numerical data of the study. The study adopted

Table 1. Mean Distribution of the level of awareness of DRRM in flood-prone public elementary schools in terms of enabling environment.

DepEd DRRMS CSS INDICATORS (Based on DepEd's DRRM Policies and School DRRM Manual)		Level of Awareness		Interpretation
		Mean	Description	
1	The school adopts existing policies relating to DRRM in education/school safety	4.75	Very Satisfactory	Very extensive
2	The school designates School DRRM focal person	4.84	Very Satisfactory	Very extensive
3	The school forms School DRRM Team, consisting of personnel from different offices; with defined membership and roles and responsibilities/functions	4.48	Very Satisfactory	Very extensive
4	The school integrates DRRM into the School Improvement Plan (SIP)	4.62	Very Satisfactory	Very extensive
5	The school has a comprehensive School DRRM Plan, which includes Climate Change Adaptation (CCA) and Education in Emergencies (EiE) measures, covering risk assessment, risk reduction, and rehabilitation and recovery	4.62	Very Satisfactory	Very extensive
6	The school conducts regular DRRM activities supported by school budget	4.43	Satisfactory	Moderately extensive
7	The school has partnerships that could be tapped to support its DRRM programs and activities, including those after a disaster	4.44	Satisfactory	Moderately extensive
8	The school conducts student-led school watching and hazard mapping (DO 23 s 2015)	4.36	Satisfactory	Moderately extensive
9	The school incorporates results of student-led school watching and hazard mapping in the School DRRM Plan and SIP	4.44	Satisfactory	Moderately extensive
10	The school linked student-led school watching and hazard mapping with the community hazard maps of LGUs provided by DOST	4.36	Satisfactory	Moderately extensive
11	The school submits Rapid Assessment of Damage Report (RADAR) to the DRRMS Central Office, within 72 hours after the onslaught of a hazard in the area	4.39	Satisfactory	Moderately extensive
12	The school executes data collection and consolidation of programs and activities on DRRM, covering the safe learning facilities, disaster risk management, and risk reduction and resilience education, to monitor results and impact exist	4.52	Very Satisfactory	Very extensive
13	Students participate in the planning process	4.35	satisfactory	Moderately extensive
14	Funding sources for interventions in the aftermath of a disaster or emergency exist and can easily be tapped.	4.38	Satisfactory	Moderately extensive
15	School Planning Team (SPT) have linked the community hazard maps with education data to better understand the school's risk	4.56	Very Satisfactory	Very extensive
Overall Weighted Mean		4.53	Very Satisfactory	Very extensive

Range of means: 1.00-1.49 Needs Improvement; 1.50-2.49 Poor; 2.50-3.49 Fair; 3.50-4.49 Satisfactory; 4.50-5.00 Very Satisfactory

the research instrument of Cubillas (2016) in his study entitled "The School Disaster Risk Reduction and Management Program of the Disaster-Prone Elementary Schools." No modifications were made to the adopted instrument. Furthermore, the study's participants were those who have participated in the implementation of the DRRM program, and those who have undergone training for the DRRM implementation.

RESULTS AND DISCUSSION

The level of awareness and compliance on DRRM in flood-prone public elementary schools in terms of:

Enabling environment

As shown in Table 1, the level of awareness of the participants in the enabling environment is very satisfactory which signifies that their level of awareness is very extensive. Specifically, indicator number two which indicates the designation of school DRRM focal person garnered the highest mean with 4.84 which signifies that the participants have extensive knowledge of it. On the other hand, indicator number 13 which indicates the participation of the students in the planning process got the lowest mean with 4.35 which signifies that the participants have moderate awareness of it. The data validates that the schools have functional DRRM coordinators since most of

Table 2. Mean distribution of the level of awareness on DRRM in flood-prone public elementary schools in terms of safe learning facilities

DepEd DRRMS CSS INDICATORS (Based on DepEd's DRRM Policies and School DRRM Manual)		Level of Awareness		Interpretation
		Mean	Description	
1	The school buildings are inventoried	4.78	Very Satisfactory	Very extensive
2	The school conducts buildings' risk assessment	4.67	Very Satisfactory	Very extensive
3	The school identifies unsafe school buildings	4.66	Very Satisfactory	Very extensive
4	The school conducts regular inspection and maintenance of facilities	4.56	Very Satisfactory	Very extensive
5	The school undertakes regular repair of minor classroom (including facilities) damages	4.51	Very Satisfactory	Very extensive
6	Systems for monitoring and quality assurance of school building construction exist	4.52	Very Satisfactory	Very extensive
7	Financial resources are allocated for completion of needed action to address unsafe school buildings within a specified period	4.36	Satisfactory	Moderately extensive
8	Unsafe school buildings are given appropriate action undertaken by the School Head (e.g. upgraded, retrofitted, non-usage, etc.)	4.53	Very Satisfactory	Very extensive
9	The school's roles and responsibilities for maintenance are defined, documented and assigned	4.68	Very Satisfactory	Very extensive
10	School heads allocate budget for routine maintenance of school facilities for safety and to protect investments, with transparent monitoring oversight at the school level	4.47	Satisfactory	Moderately extensive
11	School heads identify those rooms that are expected to be used as temporary evacuation centers for disasters	4.69	Very Satisfactory	Very extensive
12	School has coordinated with the local government on creating/maintaining a functional drainage system	4.48	Satisfactory	Moderately extensive
13	School guidance and regulations on the following are followed: safe school site selection	4.60	Very Satisfactory	Very extensive
14	resilient design, and	4.51	Very Satisfactory	Very extensive
15	resilient construction	4.49	Satisfactory	Moderately extensive
16	New school construction is monitored for compliance with: safe school site selection	4.70	Very Satisfactory	Very extensive
17	safe school design	4.69	Very Satisfactory	Very extensive
18	safe school construction	4.67	Very Satisfactory	Very extensive
Overall Weighted Mean		4.59	Very Satisfactory	Very extensive

Range of means: 1.00-1.49 Needs Improvement; 1.50-2.49 Poor; 2.50-3.49 Fair; 3.50-4.49 Satisfactory; 4.50-5.00 Very Satisfactory

the participants know their existence. Furthermore, the participants are well-informed on the appointment of DRRM focal person in schools. The result further shows that the teachers recognize the need for the participation of the students in planning the process of the DRRM program but do not give great emphasis to it. Corroborating with the results mentioned, Asio (2021) found in his study that participants are aware of disaster but moderately compliant. This suggests that being moderately aware is not an isolated case among stakeholders in public elementary schools.

Safe learning facilities

Table 2 presents the participants' level of awareness of safe

learning facilities. It can be observed that the level of awareness of the participants in establishing a safe learning facility is very satisfactory which indicates that they have extensive awareness of it. Indicator number one which states that school buildings are inventoried garnered the highest weighted mean of 4.78 which signifies that the participants have extensive awareness of it. On the other hand, indicator number seven which indicates the allocation of financial resources in the needed action to address unsafe school buildings within a specified period garnered a weighted mean of 4.36 which signifies moderately extensive awareness of it. The table reveals that the participants are knowledgeable about school building inventories as one way of securing safety and are carrying it out every school year since it is a national mandate from

Table 3. Mean Distribution of the level of awareness on DRRM in flood-prone public elementary schools in terms of risk reduction management

DepEd DRRMS CSS INDICATORS		Level of Awareness		Interpretation
		Mean	Description	
1	The school has a Contingency Plan which can turn into response actions when a disaster strikes	4.62	Very Satisfactory	Very extensive
2	The school has available, accessible, and adequate first aid kit in every classroom	4.52	Very Satisfactory	Very extensive
3	The school has at least 2 necessary and functioning equipment, in case of a disaster (e.g. fire extinguisher, handheld/base radio, generator, etc.)	4.37	Satisfactory	Moderately extensive
4	The school pre-identifies spaces for putting up temporary learning spaces/shelters in the aftermath of a disaster	4.38	Satisfactory	Moderately extensive
5	The school has ready resumption strategies and alternative delivery modes to ensure education continuity	4.43	Satisfactory	Moderately extensive
6	The school ensures that students completed the Family Earthquake Preparedness Plan	4.62	Very Satisfactory	Very extensive
7	The school establishes a school personnel tracking system/protocol in the event of a disaster	4.56	Very Satisfactory	Very extensive
8	The school has trained personnel to administer first aid to students and personnel	4.59	Very Satisfactory	Very extensive
9	The school has psychosocial interventions for personnel and students	4.32	Satisfactory	Moderately extensive
10	The school has trained teachers and other personnel who could provide psychosocial support to students	4.36	Satisfactory	Moderately extensive
11	The school has DRRM Plan and SIP with DRRM integration which are reviewed annually	4.71	Very Satisfactory	Very extensive
12	The school conducts Brigada Eskwela to ensure school safety and preparedness measures are in place	4.92	Very Satisfactory	Very extensive
13	The school conducts awareness and capacity building for families and learners	4.74	Very Satisfactory	Very extensive
14	The school participates in the different DRRM activities of the LGU	4.74	Very Satisfactory	Very extensive
15	The school establishes functional early warning system to inform students and personnel of hazards and emergencies (protocol, warning signs, devices), considering national and LGU warning systems and protocols	4.70	Very Satisfactory	Very extensive
16	The school conducts regular hazard-specific drills (at least 3 hazards) with participation of stakeholders (BFP, Medic, LGUs, NGOs, community, PTA, alumni, and others)	4.61	Very Satisfactory	Very extensive
17	The school regularly checks the functionality of the drainage system	4.44	Satisfactory	Moderately extensive
18	The school lists the number of students who participate in the drills	4.83	Very Satisfactory	Very extensive
19	The school has an evacuation plan and procedures	4.88	Very Satisfactory	Very extensive
20	The school has a student-family reunification plan that is clearly disseminated to students, teachers and parents	4.56	Very Satisfactory	Very extensive
21	The School DRRM Team receives DRRM training from division or region or partners	4.79	Very Satisfactory	Very extensive
22	School head receives DRRM training from division or region or partners	4.75	Very Satisfactory	Very extensive
23	Students, teachers, parents and other stakeholders participate in Brigada Eskwela	4.99	Very Satisfactory	Very extensive
Overall Weighted Mean		4.63	Very Satisfactory	Very extensive

Range of means: 1.00-1.49 Needs Improvement; 1.50-2.49 Poor; 2.50-3.49 Fair; 3.50-4.49 Satisfactory; 4.50-5.00 Very Satisfactory

the central office. However, they do not totally assume that they can make a budget to address unsafe buildings. This may be due to the non-dissemination of budget allocation in the schools or may be due to teachers' showing less interest

in knowing the school funding. On the contrary, the study of Dampson and Broni (2015) suggested the participation of teachers in all forms of decision-making as well as resource expenditure to improve educational outcomes. Risk

Table 4. Mean Distribution of the level of awareness on DRRM in flood-prone public elementary schools in terms of risk reduction and resilience education

DepEd	DRRMS	CSS	INDICATORS (Based on DepEd's DRRM Policies and School DRRM Manual)	Level of Awareness		Interpretation
				Mean	Description	
1	The school integrates key DRR and CCA concepts in the curriculum based on the National Curriculum Guide			4.48	Satisfactory	Moderately extensive
2	The school identifies the grade levels and subjects where Disaster Risk Reduction and Climate Change Adaptation are integrated			4.56	Very Satisfactory	Very extensive
3	The school assesses the skills and competencies of students through measurable learning and risk reduction (RR) outcomes			4.55	Very Satisfactory	Very extensive
4	The school records the percentage of students actively participating in various DRRM activities			4.52	Very Satisfactory	Very extensive
5	The school has a DRRM capacity building plan for teachers and school personnel			4.61	Very Satisfactory	Very extensive
6	The school has number of personnel trained on DRRM			4.53	Very Satisfactory	Very extensive
7	The school has available and accessible quality and up-to-date DRRM materials			4.40	Satisfactory	Moderately extensive
8	The school has DRRM corner, with updated Information, Education and Communication (IEC) materials posted in it, in every classroom			4.53	Very Satisfactory	Very extensive
9	The school carries out monitoring and evaluation to assess sustainable implementation			4.62	Very Satisfactory	Very extensive
Overall Weighted Mean				4.53	Very Satisfactory	Very extensive

Range of means: 1.00-1.49 Needs Improvement; 1.50-2.49 Poor; 2.50-3.49 Fair; 3.50-4.49 Satisfactory; 4.50-5.00 Very Satisfactory

reduction management is also a component of this study.

Disaster risk management

Table 3 above shows the result of the response of the participants in the area of risk reduction management. As observed, the level of awareness of the participants in disaster risk management is very satisfactory which indicates extensive awareness of the program. Particularly, indicator number twenty-three (23) which indicates the participation of the stakeholders in Brigada Eskwela garnered the highest weighted mean of 4.99 which signifies extensive awareness of it. On the other hand, indicator number nine that indicates the schools' psychosocial interventions for personnel and students garnered the lowest weighted mean of 4.32 which signifies moderate extensive awareness of the program. The result shows that the participants are very much aware of the conduct of the Brigada Eskwela in the presence of the stakeholders. DepEd Order no. 24, series of 2008 institutionalized Brigada Eskwela to help maintain schools, engaging all education stakeholders to contribute their time, efforts, and resources in ensuring that public schools are all set in times of class opening. Until now, schools still comply with this program of DepEd. Psychosocial interventions, on the other hand, have less emphasis in schools. This may be due to a lack of trained teachers to administer the said intervention. On the contrary, the study of Ebersöhn et al. (2015) suggested that teachers must undergo training for psychosocial interventions to promote resilience and support in

high-risk schools.

Risk reduction and resilience education

Table 4 displays the result of the responses of the participants in the area of risk reduction and resilience education of the DRRM Program. The result shows that level of awareness of the participants in risk reduction and resilience education is very satisfactory which indicates that they are very much aware of it. Particularly, indicator number nine which indicates the carrying out of schools monitoring and evaluation to assess sustainable implementation garnered the highest weighted mean of 4.62 which signifies very extensive awareness of it. On the other hand, indicator number seven which indicates the schools' available and accessible quality and up-to-date DRRM materials garnered the lowest weighted mean of 4.19 which signifies moderate extensive awareness. The result implies that the schools are already aware of the needs and the strength of the program upon the conduct of monitoring and evaluation. On the other hand, the participants are not well-informed on the availability and accessibility of the equipment. Factors that may contribute to this are the keeping of the equipment in the storage area or somewhere safe to avoid damage.

Table 5 shows the participants' level of compliance with enabling environment. It can be gleaned that the participants complied well with the establishment of an enabling environment of the DRRM. As observed, indicator number two is still on the top complied indicator that

Table 5. Mean Distribution of the level of compliance on DRRM in flood-prone public elementary schools in terms of enabling environment

DepEd	DRRMS	CSS	INDICATORS (Based on DepEd's DRRM Policies and School DRRM Manual)	Level of Compliance		Interpretation
				Mean	Description	
1	The school adopts existing policies relating to DRRM in education/school safety			4.45	Satisfactory	Well complied
2	The school designates School DRRM focal person			4.58	Very Satisfactory	Very well complied
3	The school forms School DRRM Team, consisting of personnel from different offices; with defined membership and roles and responsibilities/functions			4.26	Satisfactory	well complied
4	The school integrates DRRM into the School Improvement Plan (SIP)			4.56	Very Satisfactory	very well complied
5	The school has a comprehensive School DRRM Plan, which includes Climate Change Adaptation (CCA) and Education in Emergencies (EiE) measures, covering risk assessment, risk reduction, and rehabilitation and recovery			4.26	Satisfactory	well complied
6	The school conducts regular DRRM activities supported by school budget			4.35	satisfactory	well complied
7	The school has partnerships that could be tapped to support its DRRM programs and activities, including those after a disaster			4.42	Satisfactory	well complied
8	The school conducts student-led school watching and hazard mapping (DO 23 s 2015)			4.25	Satisfactory	well complied
9	The school incorporates results of student-led school watching and hazard mapping in the School DRRM Plan and SIP			4.23	Satisfactory	well complied
10	The school linked student-led school watching and hazard mapping with the community hazard maps of LGUs provided by DOST			4.16	Satisfactory	well complied
11	The school submits Rapid Assessment of Damage Report (RADAR) to the DRRMS Central Office, within 72 hours after the onslaught of a hazard in the area			4.25	Satisfactory	well complied
12	The school executes data collection and consolidation of programs and activities on DRRM, covering the safe learning facilities, disaster risk management, and risk reduction and resilience education, to monitor results and impact exist			4.36	Satisfactory	well complied
13	Students participate in the planning process			4.22	Satisfactory	well complied
14	Funding sources for interventions in the aftermath of a disaster or emergency exist and can easily be tapped.			4.20	Satisfactory	well complied
15	School Planning Team (SPT) have linked the community hazard maps with education data to better understand the school's risk			4.37	Satisfactory	well complied
Overall Weighted Mean				4.33	Satisfactory	well complied

Range of means: 1.00-1.49 Needs Improvement; 1.50-2.49 Poor; 2.50-3.49 Fair; 3.50-4.49 Satisfactory; 4.50-5.00 Very Satisfactory

garnered a 4.58 weighted mean which signifies that the schools have complied very well with it. The lowest garnered weighted mean with 4.16 which signifies well compliance is indicator number 10 which indicates the linking of student-led school watching and hazard mapping with the community hazard maps of LGUs. Data reveals that schools practice the designation of the DRRM coordinator. Furthermore, it also implies that there is less emphasis on letting students lead school watching and hazard mapping in schools due to the hazards that they might be exposed to in conducting the mentioned activities. The result is in coherence with the findings of Asio (2020) who found that the respondents "moderately complied" with disaster

prevention and mitigation programs and disaster preparedness programs. This result may not look good as far as school children are concerned. Mitchell et al., (2008) in Pfefferbaum et al. (2018) stated that while children's vulnerability in the face of natural disasters is well established, their involvement in disaster management has received relatively little attention even though ignoring their possible role in disaster risk reduction can endanger them in the event of a disaster and overlooks a potential resource for the communities where they live.

Table 6 shows the participants' level of compliance with establishing a safe learning environment. It can be gleaned that the level of compliance of the participants to the

Table 6. Mean Distribution of the level of compliance on DRRM in flood-prone public elementary schools in terms of safe learning facilities

DepEd DRRMS CSS INDICATORS (Based on DepEd's DRRM Policies and School DRRM Manual)		Level of Compliance		Interpretation
		Mean	Description	
1	The school buildings are inventoried	4.59	Very Satisfactory	very well complied
2	The school conducts buildings' risk assessment	4.54	Very Satisfactory	very well complied
3	The school identifies unsafe school buildings	4.52	Satisfactory	well complied
4	The school conducts regular inspection and maintenance of facilities	4.38	Satisfactory	well complied
5	The school undertakes regular repair of minor classroom (including facilities) damages	4.28	Satisfactory	well complied
6	Systems for monitoring and quality assurance of school building construction exist	4.34	Satisfactory	well complied
7	Financial resources are allocated for completion of needed action to address unsafe school buildings within a specified period	4.15	Satisfactory	well complied
8	Unsafe school buildings are given appropriate action undertaken by the School Head (e.g. upgraded, retrofitted, non-usage, etc.)	4.33	Satisfactory	well complied
9	The school's roles and responsibilities for maintenance are defined, documented and assigned	4.47	Satisfactory	well complied
10	School heads allocate budget for routine maintenance of school facilities for safety and to protect investments, with transparent monitoring oversight at the school level	4.30	Satisfactory	well complied
11	School heads identify those rooms that are expected to be used as temporary evacuation centers for disasters	4.51	Very Satisfactory	very well complied
12	School has coordinated with the local government on creating/maintaining a functional drainage system	4.24	Satisfactory	well complied
13	School guidance and regulations on the following are followed: safe school site selection	4.30	Satisfactory	well complied
14	resilient design, and	4.22	Satisfactory	well complied
15	resilient construction	4.20	Satisfactory	well complied
16	New school construction is monitored for compliance with: safe school site selection	4.43	Satisfactory	well complied
17	safe school design	4.41	Satisfactory	well complied
18	safe school construction	4.45	Satisfactory	well complied
Overall Weighted Mean		4.37	Satisfactory	well complied

Range of means: 1.00-1.49 Needs Improvement; 1.50-2.49 Poor; 2.50-3.49 Fair; 3.50-4.49 Satisfactory; 4.50-5.00 Very Satisfactory

creation of safe learning facilities is satisfactory which signifies that the school has complied well with it. As observed in the table, the participants complied very well with indicator number one which indicates the conduct of inventory to school buildings. The school building inventory in the Department of Education is practiced every year as mandated. In addition, DepEd has released D.O. no. 1, s.2017 to ensure accurate and comprehensive data of school buildings in all DepEd public schools for use in planning, budgeting, resource allocation, and decision making. Thus, this order adheres to making all school child friendly, safe, and conducive to learning. On the other hand, indicator number 7 which indicates the allocation of financial resources in the needed action to address unsafe school buildings within a specified period garnered the lowest weighted mean of 4.15 which signifies well compliance with it. The result in Table 7 implies that the inventory is well practiced in the school. Thus, this proves

that schools have made sure to secure the learners on their premises by conducting school building inventory. Furthermore, the result manifests that the schools adhere less to making an allocation to address unsafe school buildings which may be due to limited resources that compel the schools to spend the budget on a more timely and pressing issue in schools.

It can be observed in Table 7 that the participants show very satisfactory compliance with a weighted mean of 4.88 in indicator number twenty-three which indicates that compliance with the participation of the stakeholders in Brigada Eskwela is very well. On the other hand, indicator number nine which indicates the schools' psychosocial interventions for personnel and students garnered the lowest weighted mean of 4.06 which signifies satisfactory or well compliance to it. The data shows that Brigada Eskwela, as mandated by the central office, is well-executed in schools. However, psychosocial intervention is not well-

Table 7. Mean Distribution of the level of compliance on DRRM in flood-prone public elementary schools in terms of risk reduction management

DepEd DRRMS CSS INDICATORS (Based on DepEd's DRRM Policies and School DRRM Manual)		Compliance		Interpretation
		Mean	Description	
1	The school has a Contingency Plan which can turn into response actions when a disaster strikes	4.44	Satisfactory	well complied
2	The school has available, accessible, and adequate first aid kit in every classroom	4.30	Satisfactory	well complied
3	The school has at least 2 necessary and functioning equipment, in case of a disaster (e.g. fire extinguisher, handheld/base radio, generator, etc.)	4.10	Satisfactory	well complied
4	The school pre-identifies spaces for putting up temporary learning spaces/shelters in the aftermath of a disaster	4.22	Satisfactory	well complied
5	The school has ready resumption strategies and alternative delivery modes to ensure education continuity	4.29	Satisfactory	well complied
6	The school ensures that students completed the Family Earthquake Preparedness Plan	4.42	Satisfactory	well complied
7	The school establishes a school personnel tracking system/protocol in the event of a disaster	4.33	Satisfactory	well complied
8	The school has trained personnel to administer first aid to students and personnel	4.31	Satisfactory	well complied
9	The school has psychosocial interventions for personnel and students	4.06	Satisfactory	well complied
10	The school has trained teachers and other personnel who could provide psychosocial support to students	4.10	Satisfactory	well complied
11	The school has DRRM Plan and SIP with DRRM integration which are reviewed annually	4.53	Satisfactory	well complied
12	The school conducts Brigada Eskwela to ensure school safety and preparedness measures are in place	4.75	Very Satisfactory	very well complied
13	The school conducts awareness and capacity building for families and learners	4.57	Satisfactory	well complied
14	The school participates in the different DRRM activities of the LGU	4.55	Satisfactory	well complied
15	The school establishes functional early warning system to inform students and personnel of hazards and emergencies (protocol, warning signs, devices), considering national and LGU warning systems and protocols	4.56	Satisfactory	well complied
16	The school conducts regular hazard-specific drills (at least 3 hazards) with participation of stakeholders (BFP, Medic, LGUs, NGOs, community, PTA, alumni, and others)	4.45	Satisfactory	well complied
17	The school regularly checks the functionality of the drainage system	4.17	Satisfactory	well complied
18	The school lists the number of students who participate in the drills	4.68	Very Satisfactory	very well complied
19	The school has an evacuation plan and procedures	4.68	Very Satisfactory	very well complied
20	The school has a student-family reunification plan that is clearly disseminated to students, teachers and parents	4.34	Satisfactory	well complied
21	The School DRRM Team receives DRRM training from division or region or partners	4.58	Very Satisfactory	very well complied
22	School head receives DRRM training from division or region or partners	4.57	Very Satisfactory	very well complied
23	Students, teachers, parents and other stakeholders participate in Brigada Eskwela	4.88	Very Satisfactory	very well complied
Overall Weighted Mean		4.43	Satisfactory	well complied

Range of means: 1.00-1.49 Needs Improvement; 1.50-2.49 Poor; 2.50-3.49 Fair; 3.50-4.49 Satisfactory; 4.50-5.00 Very Satisfactor

practiced in schools primarily because the schools respond and focus mainly on the physical effects of the flood rather than its intangible effects like the psychosocial effect on the flood victims. This was supported by the study of Ancheta et al. (2017) which found that the concentration during flood disasters is mainly on protecting the environment

including the topography of the location and the habitats of the animals present in it. The affected residents especially those who suffer flood-induced trauma receive moderate support from the government to help them recover in mental aspects. The government tends to focus on prevention compared than recovery and rehabilitation, and

Table 8. Mean Distribution of the level compliance on DRRM in flood-prone public elementary schools in terms of risk reduction and resilience education

DepEd DRRMS CSS INDICATORS (Based on DepEd’s DRRM Policies and School DRRM Manual)		Compliance		Interpretation
		Mean	Description	
1	The school integrates key DRR and CCA concepts in the curriculum based on the National Curriculum Guide	4.31	Satisfactory	well complied
2	The school identifies the grade levels and subjects where Disaster Risk Reduction and Climate Change Adaptation are integrated	4.32	Satisfactory	well complied
3	The school assesses the skills and competencies of students through measurable learning and risk reduction (RR) outcomes	4.33	Satisfactory	well complied
4	The school records the percentage of students actively participating in various DRRM activities	4.35	Satisfactory	well complied
5	The school has a DRRM capacity building plan for teachers and school personnel	4.38	Satisfactory	well complied
6	The school has number of personnel trained on DRRM	4.29	Satisfactory	well complied
7	The school has available and accessible quality and up-to-date DRRM materials	4.19	Satisfactory	well complied
8	The school has DRRM corner, with updated Information, Education and Communication (IEC) materials posted in it, in every classroom	4.33	Satisfactory	well complied
9	The school carries out monitoring and evaluation to assess sustainable implementation	4.40	Satisfactory	well complied
Overall Weighted Mean		4.32	Satisfactory	well complied

Range of means: 1.00-1.49 Needs Improvement; 1.50-2.49 Poor; 2.50-3.49 Fair; 3.50-4.49 Satisfactory; 4.50-5.00 Very Satisfactory

Table 9. Mean Distribution of implementation of DRRM in the flood-prone public elementary schools before flood

Before flood, the school...		Mean	Description	Interpretation
1	informs the frequency of flood in the community/school.	3.79	Satisfactory	well implemented
2	informs about the warning system of flood.	3.69	Satisfactory	well implemented
3	informs on how fast the water floods occur in the school and how high it rises.	3.37	Fair	adequately implemented
4	watches out for rapidly rising water and prepare the students/pupils for evacuation.	4.23	Satisfactory	well implemented
5	switches off the electricity and lock the rooms after the children have gone out.	4.25	Satisfactory	well implemented
6	prepares a handy survival kit.	3.72	Satisfactory	well implemented
7	offers services and perform the assigned tasks in the event that it is designated as an evacuation area for families or livestock.	4.08	Satisfactory	well implemented
8	informs to be alert to the possibility of a flood especially during long duration of heavy rains.	4.08	Satisfactory	well implemented
9	informs to use a radio or a portable, battery powered radio (or television) for updated information.	4.01	Satisfactory	well implemented
10	informs to avoid using lanterns or torches in case there are flammable materials present.	3.64	Satisfactory	well implemented
11	protects its property against flood.	3.94	Satisfactory	well implemented
Overall Weighted Mean		3.89	Satisfactory	well implemented

Range of means: 1.00-1.49 Needs Improvement; 1.50-2.49 Poor; 2.50-3.49 Fair; 3.50-4.49 Satisfactory; 4.50-5.00 Very Satisfactory

emergency preparedness. This equates to the idea that prevention is the most concentrated area of flood risk reduction and management. They focus on this primarily because of the benefits that can be taken from preventive measures.

Table 8 shows the participants’ level of compliance to risk

reduction and resilience education. As gleaned, the schools have satisfactorily complied or have well complied with risk reduction and resilience education. Particularly, indicator number nine which indicates the carrying out of schools monitoring and evaluation to assess sustainable implementation garnered the highest weighted mean of

Table 10. Mean Distribution of implementation of DRRM in the flood-prone public elementary schools during flood

During flood, the school...		Mean	Description	Interpretation
12	keeps the pupils calm and update them with the status of the situation and safety reminders on what to do and where to go in case of evacuation.	4.22	Satisfactory	well implemented
13	listens continuously to a radio, or a portable, battery-powered radio (or television) for updated emergency information.	4.11	Satisfactory	well implemented
14	reminds pupils not to attempt to cross flowing streams unless they are assured that the water is below knee high level.	4.11	Satisfactory	well implemented
15	advises pupils to avoid areas prone to flash flooding and be cautious of water-covered roads, bridges, creeks and stream banks and recently flooded areas.	3.91	Satisfactory	well implemented
16	warns pupils not to go swimming or boating in swollen rivers.	3.94	Satisfactory	well implemented
17	watches out for snakes in flooded areas.	3.44	Fair	adequately implemented
18	advises pupils to eat only well-cooked food and drink only clean or preferably boiled water and throw away all food that has come into contact with flood water.	4.17	Satisfactory	well implemented
Overall Weighted Mean		3.99	Satisfactory	well implemented

Range of means: 1.00-1.49 Needs Improvement; 1.50-2.49 Poor; 2.50-3.49 Fair; 3.50-4.49 Satisfactory; 4.50-5.00 Very Satisfactory

4.40 which signifies satisfactory or well compliance of it. On the other hand, indicator number seven which indicates the schools' available and accessible quality and up-to-date DRRM materials garnered the lowest weighted mean of 4.19 which signifies that schools have complied well with it. The data shows that the participants make assessments of the effectiveness of the DRRM program within the school year. However, one pressing problem for most of schools is the availability of the equipment that will be used during the disaster. Budget allocation does not primarily focus on the procurement of equipment for flood disasters and the usage of the equipment in schools is still not that regularly practiced.

The level of implementation of DRRM in the flood-prone public elementary schools:

Before the flood

Table 9 displays the responses of the participants on the implementation of the program before the flood. As shown in table, the level of implementation of the DRRM in schools before the flood is satisfactory which signifies that the school has implemented the program moderately. The table shows that indicator number five which indicates the switching off of the electricity and locking of rooms after the children have gone out garnered the highest weighted mean of 4.25 which can be described as satisfactory and signifies that the schools moderately implement the mentioned guideline. On the other hand, indicator number 10 which indicates informing students to avoid using lanterns or torches in case there are flammable materials present garnered the lowest weighted mean of 3.64 which can be described as satisfactory and signifies moderate implementation. This reveals that the schools mainly are concerned with the electrical connections of the rooms since they can also cause more damaging effects like

electrification if not monitored well. However, the use of torches and other flammable materials is not given much emphasis to children primarily because there are no possible moments wherein pupils will use torches in school. Wanjala and Onyango (2018) likewise noted that there is a substantial level of awareness of fire disasters among school administrations even during flood disasters.

During the flood

Table 10 displays the responses of the participants on the implementation of the program during the flood. The result shows that the level of implementation of the DRRM in schools during floods is satisfactory which signifies that the school has implemented the program moderately. Indicator number twelve which indicates keeping the pupils calm and updating them with the status of the situation and safety reminders on what to do and where to go in case of evacuation garnered the highest weighted mean of 4.22 which can be described as satisfactory which signifies that the schools moderately implement the mentioned guideline. On the other hand, indicator number 17 which indicates watching out for snakes in flooded areas garnered the lowest weighted mean of 3.44 which can be described as fair and signifies adequate implementation. The results indicate that schools have established management of informing the pupils on the updates of floods and the action to be taken in the worst-case scenario. This further reveals that schools have less priority on watching out for other sources of hazard like snakes beneath flood water. This implies that the schools are mostly concerned only about how pupils are to be kept away and safe from flood water but not to the extent of looking for other possible hazards that may occur in a different and unexpected manner. These findings are supported by the statement of Frank (2017) that natural disasters cause many species of wildlife to leave the affected area in search of a new home. Floods that occur after heavy rainfalls commonly displace snakes.

Table 11. Mean Distribution of implementation of DRRM in the flood-prone public elementary schools after flood

After flood, the school...		Mean	Description	Interpretation
19	reports broken utility lines (electricity, water, gas, etc.) immediately to appropriate agencies/authorities.	4.06	Satisfactory	well implemented
20	ensures that electrical appliances are checked by a competent electrician before switching them on.	3.87	Satisfactory	well implemented
21	informs to avoid affected areas.	4.06	Satisfactory	well implemented
22	informs to continue to listen to a radio or local television stations and return home only when authorities indicate it is safe to do so.	4.36	Satisfactory	well implemented
23	informs to stay away from any building that is still flooded.	4.09	Satisfactory	well implemented
Overall Weighted Mean		4.09	Satisfactory	well implemented

Range of means: 1.00-1.49 Needs Improvement; 1.50-2.49 Poor; 2.50-3.49 Fair; 3.50-4.49 Satisfactory; 4.50-5.00 Very Satisfactory

Table 12. Correlation Analysis on the level of awareness consistent with the level of compliance among public elementary schools

Variables	N	Mean	SD	R	Sig. (2-tailed)	Interpretation	Remarks
Level of awareness	139	4.5417	.40607	0.614	.000*	Moderately strong correlation	Significant
Level of compliance	139	4.3330	.54743				

Level of significance: $\alpha = .05^*$

Table 13. Correlation analysis on the level of awareness of the participants and the level of implementation of DRRM in the public schools

Variables	n	Mean	SD	r	Sig. (2-tailed)	Interpretation	Significance
Level of awareness	139	4.542	.40607				
vs.							
Level of implementation as assessed during							
• Before flood	261	3.891	.53684	-0.039	0.650	Very weak correlation	Not Significant
• During flood	261	3.986	.66316	-0.048	0.574	Very weak correlation	Not Significant
• After floods	261	4.090	.65918	-0.023	0.785	Very weak correlation	Not Significant

Level of significance: $\alpha = .05^*$

As these snakes try to find food and shelter, people working in and around damaged buildings are more likely to encounter them.

After the flood

Table 11 shows the responses of the participants on the implementation of the program after the flood. As shown, the level of implementation of the DRRM in schools after a flood is satisfactory which signifies that the school has implemented the program moderately. Indicator number twenty-two which indicates informing pupils to continue to listen to a radio or local television stations and to return home only when authorities indicate it is safe to do so garnered the highest weighted mean of 4.36 which can be described as satisfactory which means that the schools moderately implement the mentioned guideline. On the other hand, indicator number twenty which indicates ensuring that electrical appliances are checked by a competent electrician before switching them on garnered the lowest weighted mean of 3.87 which can be described

as satisfactory and signifies moderate implementation. This reveals that schools have made sure to maximize the use of media to secure the lives of the pupils even after they go home from school. However, there is less emphasis on having the electrical devices checked by the electrician which is primarily because the devices were not soaked to flood water or there is no allocated budget to hire an electrician. The study of Aishaa et al. (2015) supported the findings that the use of media is important as a main source of information during disaster periods. Using media, the flood victims could be the content providers and able to help others with the information.

The Level of Awareness and the Level of Compliance among Public Elementary Schools

Table 12 shows the relationship between the level of awareness and the level of compliance of the participants in the DRRM program. It can be observed that the two variables yielded an R-value of 0.614 with a significant value of 0.000 tested at 0.05 level of significance, which can

Table 14. Correlation analysis on the level of compliance of the participants and the level of implementation of DRRM in the public schools

Variables	n	Mean	SD	r	Sig. (2-tailed)	Relationship	Significance
Level of compliance	139	4.333	.54743				
vs.							
Level of implementation as assessed during							
• Before flood	261	3.891	.53684	-0.124	0.144	Very weak correlation	Not Significant
• During flood	261	3.986	.66316	-0.150	0.078	Very weak correlation	Not Significant
• After floods	261	4.090	.65918	-0.036	0.678	Very weak correlation	Not Significant

Level of significance: $\alpha = .05^*$

be interpreted as a moderately strong correlation, and thus, the null hypothesis is rejected. This implies that if the teachers are aware of the guidelines of the DRRM program, they are more likely to comply with it, or the other way around. The result is supported by the study of Sales et al. (2018) wherein they found out that teachers agree that public schools have generally been compliant with the risk reduction and disaster preparedness program. Relationship between the implementation of the DRRM and the level of awareness and the level of compliance.

Table 13 shows the relationship between the implementation of the DRRM and the level of awareness of the teachers. shows the relationship between the level of awareness and the level of implementation of DRRM before, during, and after the flood. It yielded significant values of 0.650, 0.574, and 0.785 before, during, and after the flood respectively which bear a very weak correlation with the level of awareness. Thus, the null hypothesis is not rejected. This implies that no matter how aware the teachers are of the guidelines of the DRRM program, it does not follow that the implementation is well-executed.

Table 14 shows the relationship between the level of compliance and the level of implementation of DRRM before, during, and after the flood. It yielded significant values of 0.144, 0.078, and 0.678 before, during and after the flood respectively which bear a very weak correlation with the level of awareness. Thus, the null hypothesis is not rejected. This manifests that no matter how much the teachers have complied with the DRRM guidelines, it does not follow that the implementation is well-executed. Both Table 14 and 15 show that the implementation is moderately executed in schools. This is probably due to the various undertakings that the implementers give focus to, which force them to give less priority to DRRM on flood disasters. This result is corroborated by the findings of the study by Mendoza et al. (2016) who explained that the participants in the study considered the DRRM as an “add-on” responsibility since they are also performing other functions, making them spend limited time, effort, and other resources for planning and implementing more comprehensive and relevant activities. Furthermore, the plans which are formulated by them or given by the central office that serves as the blueprint of the program are not materialized when it is just formulated for compliance. He

concluded that when DRRM is not a priority, the planned activities could be less likely implemented and limited resources will be allocated. The results further suggest that teachers need to train and practice the pupils on the measures of flood disasters more frequently. The study of Marskole et al. (2018) revealed that the level of awareness among school-going children was not satisfactory initially but substantially improved after the educational intervention.

Children were able to identify the precautionary measures set by the intervention after it was introduced to them. However, Marskole et al. (2018) emphasized that the extent of knowledge of the children is not yet satisfactory and there is a severe need of providing them with knowledge about DRRM. Furthermore, the implementation of the program should have been effective if pupils were informed through print and informative media. Kimura (2014) study found that the perception of extreme weather and a lack of tangible flood disaster images affected the level of preparation for floods among children that responded to the survey.

The Problems Encountered in the Implementation of DRRM

During the conduct of the focus group discussion, many problems surfaced in most of the school-participant upon the implementation of flood disaster risk reduction and management. One major reason why floods occur in the school participants is because of the school location and the changes in the school environment.

Teacher-participant (TP 4) said:

“...na catch basin naman me. Tungod kay nanag-as naman sila (yuta sa palibot), ang eskwelahan ra ang nagpabiling nga ubos mao nang bahaunon gyud siya.” (...we have been settled in a catch basin. Because they have elevated (surrounding land), the school is the only remaining low-lying area that is why it is really prone to flood.)

Another teacher-participant (TP 10) responded:

“...kay na tungaan mi’g Agusan River ug Baan River. Although ang Agusan River dili kayo siya mag over flow, diri man pud me sa Baan River kay duol raman kaayo siya.

Ug kung mutaob siya, mubaha gyud siya sa amo.” (...because we are in the midst of Agusan River and Baan River. Although the Agusan River does not overflow, we still are flooded by the Baan River because it is very close to our location. And if the water rises, our vicinity is flooded.)

It can also be observed that the teachers do not have enough knowledge on the funding of the DRRM program.

One teacher-participant (TP 10) said:

“...murag dili ko sure sir ha pero naa man nuon me support sa amenities sa eskwelahan sa DRRM.” (...I am not quite sure sir but we have support anyway in the amenities of DRRM in our school.)

Another teacher-participant (TP 6) expressed:

“...not sure ko sir kay medyo bag-o pako sa skul mao nang wala ko kabalo kung naa ba gyud siya’y funding (DRRM) sa among school.” (...I am not sure sir because I am still new in the school that is why I do not know if there is an allocated fund (for DRRM) in our school.)

It can be inferred that although there may be allocation to DRRM program in the schools, teachers do not know the amount and origin of the fund. It was also observed that the schools implement DRRM-related activities like drills, but it only focuses on fire and earthquake disasters. ACT Partylist Rep. Castro in Mateo (2022) proposed that the operating budget of public schools must be doubled if the government is to ensure the safe implementation of full face-to-face classes. He said the increase in the spending limit on school MOOE from P15,000 to P50,000 per item is insufficient to cover the needed improvements in classroom ventilation, installation of hand-washing facilities and setting up of school clinics, among others. These facilities are non-negotiable when the safety of school children is concerned.

A teacher-participant (TP 6) explained:

“...wala man ko nakabantay sir nga nag conduct ang GSP ug BSP sir about anang flood drill so far. Sa lahi man nga kuan (disaster) ilang focus man gyud.” (...I did not notice sir that the GSP and BSP have conducted about flood drills so far. Other disasters are their focus.)

Another teacher-participant (TP 10) explained:

“...wala ko naka bantay sa flood drills and mitigation. Ang ako lang kay sa earthquake lang. Ang focus man gyud kay sa earthquake ug fire lang.” (I did not notice that they have conducted flood drills and mitigation. I only have noticed earthquake only. Their focus is on earthquake and fire only.)

This signifies that the flood drills are not taken into action in the DRRM program since the schools particularly the flood-prone schools do not focus on it but rather on earthquake and fire drills. This simply tells that the pupils do not have proper training on flood disaster response. This data is alarming and needs to be addressed. ERM.org (n.d.) stated that children are always the ones who suffer the most in cases of natural disasters. Haiti and Pakistan experienced the loss of children’s lives because DRR was

lacking in both states and this shows that the absence of DRR friendly schools makes the casualties of disasters more and the recovery a lot harder and takes more time.

The Best Practices/Initiatives of the Flood-prone Public Elementary Schools on DRRM

There are plenty of practices that flood-prone schools have done to mitigate the flood effects. Such practices help the schools to become resilient amidst flood hazards. Since the schools are sometimes covered with flood water, the participants take the initiative to prevent further damage to their properties.

A teacher-participant (TP 15) stated:

“...among mga devices sa room, amo na nang isaka sa taas-- sa principal’s office.” (...our room devices, we bring them upstairs -- in the principal’s office.)

Another teacher-participant (TP 4) expressed:

“... ang among cabinet, naka sang-at na gyud daan. Ready for flood na gyud.” (...our cabinets are placed in high areas already. Ready for flood already.)

It can be observed that the teachers have already prepared and structured their rooms in a way that flooding will cause less or no risk to their files and other important document and devices. Because some rooms are located in a low-lying area, the teachers together with the parents created a way to make the rooms still comfortable amidst flood.

One teacher-participant (TP 3) said:

“... Sa ilang room kay ubos ang yuta, ilang gibuhay kay ilang gi meeting ang mga parents nga maghimo sila ug water barrier para di na musulod ang tubig kung ting baha.” (...in their rooms, the land is low. What they did was they call for parents’ meeting and they created a water barrier so that the water will not enter during flood.)

Schools during flood are covered with water that gives them the risk of having water-related diseases that can be taken during flood. With this, schools, together with the stakeholders took initiative to address this problem.

One teacher-participant (TP 2) said:

“...duna poy among gibuhay ug gamay nga drainage para ang tubig dili gyud magdugay.” (...we also have created a small drainage so that the water will not last.)

Another teacher-participant (TP 9) expressed:

“...functional ang among drainage system sir...maong dili gyud siya ga stock sa amoa ang tubig.” “...Sa quarterly pahina, ginapahinloan gyud namo ang drainage kay naa may times nga mu clog. (...our drainage system sir is functional...that is why the water doesn’t get stuck...In quarterly pahina, we cleanse the drainage because there are times that it clogs.)

This implies that the drainage system is not just established but is also maintained to secure its

functionality. Since extreme rain causes the school premises to flood, the schools have conducted programs to help lessen the effect of flood. Mohanty (2022) posited that due importance must be given to all aspects while selecting a site for a school which includes drainage against flooding right from the construction.

One teacher-participant (TP 5) said:

"...nag tree-planting mga bata apil pud ang mga teacher aron mapugngan ang flood disaster." (...we conduct tree-planting together with the children and the teachers to prevent flood disaster.)

Another teacher-participant (TP 8) expressed:

"...naa silay time nga giapil gani nila ang LGU nga mag tree-planting sila sa barangay kay para maka prevent sa baha." (...there was a time when they involve the LGU in tree-planting in the barangay to prevent flood.)

The DRRM is very difficult to implement by the school alone. That is why the schools have involved the stakeholders to effectively and successfully lay the DRRM in schools.

One teacher-participant (TP 11) expressed:

"...during sa among mga drill, naay barangay council nga muapil kauban ang mga nanay." During our drills, there are barangay council who join together with the parents.)

Another teacher-participant (TP 9) expressed:

"...makigcoordinate nako sa among LGU sa among council unsay amoang angay buhaton ug assistance. Para gikan sa ila aron mabal-an namo asa namo dal-on ang mga tawo ug asa ang area nga affected ug asa namo sila ibutang. Nakig coordinate nako sa ila sir." (...I coordinate with our LGU in our council on what we should do and the assistance. So that from them, we will know where we will bring the people and where we should place them. I have coordinated with them already sir.)

This implies that there is well-established coordination or organization between the schools and the stakeholders in preventing and managing flood disasters.

Conclusions

The awareness of the participants in the DRRM program in the areas of enabling environment, safe learning facilities, disaster risk management, and risk reduction and resilience education is comprehensive but their compliance is limited due to insufficient funding, lack of emphasis on the program, and the unavailability of the equipment to be used during the flood. The provision of the said limitations is essential for the efficiency and effectiveness of the program. DRRM particularly on flood disasters is not well practiced in schools. The focused disasters in DRRM are earthquakes and fire which make the implementation of the flood disaster risk reduction and management satisfactory only.

Giving emphasis to flood drills will help flood-prone schools to be resilient in flood incidences. Teachers are well aware of the guidelines of the DRRM program. Thus, they are more likely to comply with it. Furthermore, no matter how aware and compliant the teachers are, the implementation still relies on the priorities that the school undertakes. Programs and concerns that are very timely, always existing, and relevant to schools' improvement are catered to first that is why DRRM is only considered when disasters occur or when the central office of DepEd asks for a report. The implementation lacks transparency, particularly on fund sources and budget allocation. The school's DRRM program focuses on fire and earthquake disasters which is contrary to the fact the school location is flood-prone. The involvement of the stakeholders as well as the initiatives done by the schools are best practices in the implementation of the program. The people who get affected by floods in schools are the teachers for their instructional materials and devices may be damaged that is why teachers take innovative steps to prevent floods' further risk to their classrooms and school. Thus, teachers play a significant role in flood DRRM implementation. Moreover, there are other factors that are not identified here in the study that may have caused the implementation of the DRRM program to only be satisfactory. It is desirable for future researchers to conduct related studies with other variables that may diagnose the reasons why flood DRRM implementation is less practiced.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of the paper.

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