



Survey on Disaster Risk Reduction Measures in the Balicutro Area Schools of Northern Samar

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Authors' contributions

This work was carried out in collaboration among all authors. Authors ROC and FLS designed the study and wrote the protocol. Author ROC managed the analyses of the study, performed literature searches and wrote the first draft of the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

This study sought to account the disaster risk reduction measures of the school heads of the elementary schools in the Balicutro Area of Northern Samar in terms of information dissemination and advocacy campaign, policy mechanisms, organizational structure and mitigation measures to ensure the safety of the pupils, school personnel, properties and records. The findings showed that there was a significant relationship on the level of awareness of the respondents and the status of implementation of disaster risk reduction measures. The respondents possess some extent of knowledge on disaster risk reduction measures. The respondents' awareness influenced their status of implementation of the measures. It can be implied that the efforts of the government to raise the awareness is effective.

Keywords: *Disaster risk reduction awareness; Balicutro Area Northern Samar; mitigation measures; policy mechanisms.*

1. INTRODUCTION

The National Disaster Risk Reduction and Management Council of the Philippines reported

that when Super Typhoon Yolanda hit the country in November 2013, it left 6, 300 casualties, 28,689 injured and 1,061 missing, and unprecedented destruction in various

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educational investments of the Commission on Audit or COA [1]. In the Division of Northern Samar, after the onslaught of Typhoon Glenda, it damaged 163 classrooms, 20 of which are located in the Balicuatro Area.

Disasters are uncontrolled threats confronting the world which create a pressing challenge on the part of the schools because they bring risks to the safety of the learners, teachers, school personnel, school properties and records. The learning of the learners is affected due to disturbances in the actual class contact time, psychological impact of the catastrophes, and health and economic issues. Teachers and school personnel consume additional hours restoring the school systems to normal. The flow of the lessons is disrupted. Disasters denude buildings, fences, furniture, computers, textbooks, instructional materials and other school properties. Records can also be destroyed and distorted.

School integrated DRRM actions and programs in its fourfold function in research, extension, instruction and production through curricular integration, extension services, awareness campaign and capability-building seminar [2]. In his research titled "The Vulnerability and Capacity Assessment in Barangay Dao, San Jose, Northern Samar", Dela Fuente [3] stressed that the elementary school in the said community is among the elements at risk to typhoon and other hazards. Also, knowing disaster preparedness must be coupled with being alert always, calm and cooperative with persons in authority [4].

The Department of Education issued DepEd Order No. 55, s. 2007 about "Prioritizing the Mainstreaming of Disaster Risk Reduction Management in the School System and Implementation of Programs and Projects Relative Therefore" of which under its non-structural component, the department prepared the Disaster Risk Reduction Resource Manual which serves as source of information to be used by school administrators, school heads/principals, supervisors and teachers relative to the implementation of disaster risk reduction management projects.

UNESCO, with other organizations, has set the goals of Comprehensive School Safety which included protection of learners and education workers from death, injury, and harm in schools, planning for educational continuity in the face of

expected hazards, safeguarding education sector investments and strengthening climate-smart disaster resilience through education. Accordingly, these are addressed by education policy and practices aligned with disaster management covering three pillars which include safe learning facilities, school disaster management and risk reduction and resilience education [5].

Moreover, *Educator* magazine columnist Carlos Valarao [6] stated that the relationship between disasters and schools is a crucial one. There is a need to protect the schools from disasters as there is a significant role that the schools play during disasters. Therefore, schools should take seriously Disaster Risk Reduction and Management. In a more proactive sense, schools can even lead the communities in taking initiatives to withstand disasters.

Guevarra [7] assessed the disaster preparedness in selected thirty-seven schools in Luzon. It was found that majority conducted drills once a year. Drills are conducted to attain the highest level of awareness among the school children, school personnel and the community. It also determined awareness of key school personnel on disaster preparedness programs (both national and local) and Department of Education disaster related policies. The results of the study discussed that majority of the public school key personnel were aware of the national and local disaster management programs. All respondents were aware of the DepEd disaster-related policies.

The researcher observed that the issue on Disaster Risk Reduction and Management is less prioritized by the schools. It is manifested in the impacts of calamities that seem to be usual scenarios every after the ravages of disasters. Actions are not systematic. Disaster risk reduction plans and committees are not felt functional. Aside from drills which not all schools conduct, no other regular activity is being conducted by the schools in relation to disaster risk reduction. Thus, this research was established.

2. METHODOLOGY

Purposive sampling was used to select elementary schools in the Balicuatro Area of Northern Samar. The population of seventy school heads in the Balicuatro Area was composed of forty school heads from the

mainland schools and thirty school heads from the island schools. Complete enumeration of school heads was employed. Thus, 70 school heads from 106 schools were automatically the respondents of this study. San Isidro district had the greatest number of ten school heads. The districts of Allen, Lavezares II and Victoria had nine school heads. Capul district had eight. Lavezares I and San Antonio districts got seven school heads, respectively. Biri district had six. Moreover, the district with the least number of school heads was San Vicente with only five school heads.

The instrument used in this study was the survey questionnaire developed from the issuances of the Department of Education related to disaster risk reduction.

Listed items about the level of awareness of school heads on disaster risk reduction measured in terms of: information dissemination and advocacy campaign, policy mechanisms, organizational structure, mitigation measures ensuring the safety of pupils and school personnel, school properties and school records. Assessment of the status of implementation of disaster risk reduction was measured in terms of information dissemination and advocacy campaign, policy mechanisms, organizational structure, mitigation measures ensuring the safety of pupils and school personnel, school properties and school records.

3. RESULTS AND DISCUSSION

3.1 Level of Awareness of the Respondents on the Disaster Risk Reduction Measures

3.1.1 Information Dissemination and Advocacy Campaign

In Table 1, the results show that the majority of the respondents were much aware of information dissemination and advocacy campaign on disaster risk reduction measures with a sub-mean of 4.0. This implies that the respondents have high awareness level of disaster risk reduction measures brought by the issuances of the central, regional and division offices of the Department of Education.

The majority of the respondents were very much aware that schools should participate in the activities related to the observance of National Disaster Consciousness Month with the highest

mean value of 4.7. Most of the respondents were much aware that disaster risk reduction concepts should be integrated in lessons, and that schools should conduct information dissemination on hazards in school ($\bar{x}=4.1$). Respondents were aware that trainings/seminar/orientation on drills should be conducted/attended ($\bar{x}=4.0$), trainings/seminar/orientation on developing a disaster risk reduction plan should be conducted/attended ($\bar{x}=3.9$), capability building to all the members of the disaster risk reduction group should be conducted ($\bar{x}=3.9$), and trainings/seminar/orientation on the organization of disaster risk reduction groups should be conducted/attended ($\bar{x}=3.9$). Indicators that has the lowest mean of 3.8 and 3.6, respectively, were 'the school shall hold capability building on first aid' and 'trainings/seminar/orientation on the orientation of Disaster Risk Reduction Manual'.

It is worthy of note that most of the schools observed the celebration of Disaster Consciousness Month every July. The Department of Education, through the Disaster Risk Reduction Management Office, led the annual celebration. In the Division of Northern Samar, a memorandum pertaining to the said event was fielded to all districts. Activities related to the celebration included a kick-off ceremony, multi-hazard drill, hazard mapping and risk assessment to indicate various presence of physical threats. These contributed to the very high awareness level observed among the respondents.

The respondents had the lowest level of awareness on trainings/seminar/orientation on the orientation of Disaster Risk Reduction Manual. This can be attributed to the fact that some school heads had low awareness that there was a manual of DRR measures for schools. If they did, perhaps they were not aware that it should be disseminated.

3.1.2 Policy mechanisms

According to the result in Table 2, the respondents were very much aware of policy mechanisms with a sub-mean of 4.4. This can be traced to the efficiency and effectiveness of the Department of Education that used different means of disseminating policies through social media, internet and printed copies distributed to the field offices which include districts and schools.

Table 1. Level of awareness of the respondents on disaster risk reduction measures in terms of information dissemination and advocacy campaign

Indicators	Mean	Interpretation
Schools should participate in the activities related to the observance of National Disaster Consciousness Month	4.7	Very Much Aware
The school shall conduct information dissemination on hazards in school.	4.1	Much Aware
Disaster risk reduction concepts should be integrated in lessons	4.1	Much Aware
Training/seminar/orientation on drills should be conducted/attended	4.0	Much Aware
Training/seminar/orientation on <i>developing a disaster risk reduction plan</i> should be conducted/attended	3.9	Much Aware
Conduct/attend training/seminar/orientation on <i>the organization of disaster risk reduction groups</i>	3.9	Much Aware
Capability building to all the members of the Disaster Risk Reduction Group should be conducted	3.9	Much Aware
The school shall hold capability building on First Aid	3.8	Much Aware
Training/seminar/orientation on <i>the utilization of Disaster Risk Reduction Manual</i> should be conducted/attended	3.6	Much Aware
Sub-mean	4.0	Much Aware

Policy mechanism with the highest mean of 4.7 was any decision to cancel or suspend classes must come from the local government and that school head may only cancel or suspend classes in cases where urgent action is needed to prevent loss of life or bodily harm. Majority of the respondents indicated very much awareness on the school heads should take the lead role in planning activities to promote a safe school environment with a mean of 4.6; all concerned DepEd officials and personnel should observe weather bulletins of PAGASA announced various media outlets with a mean of 4.5; schools should practice segregation, reduction, recycling, and re-using of solid wastes with a mean of 4.4; every school should have a garden with vegetables and a root crop which can be consumed at times the schools are used as evacuation centers, concerned local DepEd officials should establish effective lines of communication with their respective LGU, and school heads should ensure the participation of students, teachers, parents, community members, local authorities, and other concerned stakeholders in promoting safe school environment with a mean of 4.3; and the school should mainstream disaster risk reduction concepts in the school curriculum with a mean of 4.2. Also, respondents indicated much awareness that schools should formulate Disaster Risk Reduction Plan, and the DepEd Disaster Risk Reduction Manual should be the source of information of the school heads, supervisors, administrators and teachers relative to DRR implementation with a mean of 4.1.

DepEd reiterated the guidelines through an order. The guidelines stipulated rules on automatic and localized cancellation/suspension of classes and work based on weather bulletins of PAGASA. Parents were also advised to check for media advisories coming from PAGASA, NDRRMC, RDRRMC, LDRRMC and the Office of the President. Thus, the respondents were very much aware of the rules of suspension of classes because the government is very much serious in disseminating such information through varied means. This study confirms the findings of Guevarra et al. who reported that the majority of the key school personnel were aware of national and local disaster management programs.

It was found that the indicators pertaining to the DepEd DRR manual as the source of information of the DepEd people in matters relative to DRR implementation, and that the schools should formulate DRR plan had the lowest mean of 4.1. This is consistent with the findings of this same study on information dissemination and advocacy campaign. Both revealed lowest mean for the DepEd DRR Manual because the manual is not widely utilized in Northern Samar. Only few school heads were aware that there is a manual on disaster risk reduction specifically prepared for the schools.

Furthermore, with regard to the DRR plan, though the department called for having it in every school, it was only recently that the DRR plan was mainstreamed in the School Improvement Plan.

3.1.3 Organizational structure

The respondents indicated high level of awareness in terms of organizational structure with a sub-mean of 4.1 as revealed in Table 3, which implies that they possessed certain knowledge on mobilization of human resources to perform tasks related to disaster risk reduction. This is influenced by some orders of the Department of Education mandated to form school disaster management committee or group.

Majority of the respondents were very much aware that school disaster risk reduction group or committee should be formed and disaster risk reduction and management focal person should be designated, with means of 4.4 and 4.2, respectively. The respondents indicated much awareness on that disaster risk reduction and management office should be designated, capabilities for the members of the DRR

group should be assessed, and that there must be clear definition of the roles and functions of each team and its members with a mean of 4.1; there must be an incident command system in the school that can be activated in times of emergency with a mean of 4.0; disaster assessment team, needs analysis team, search and rescue team, medical team, fire suppression team, relief and evacuation team and other response teams should be formed, and volunteers should be organized which had a mean of 3.9.

It was observed that the respondents mostly had awareness that DRR group or committee in schools should be formed. However, they indicated low awareness on forming teams that would work on disaster assessment, needs analysis, search and rescue, medical, fire suppression, relief and evacuation and other responses. They also show low awareness of organizing volunteers.

Table 2. Level of awareness of the respondents on disaster risk reduction measures in terms of policy mechanisms

Indicators	Mean	Interpretation
Any decision to cancel or suspend classes must come from the local government. A school head may only cancel or suspend classes in cases where urgent action is needed to prevent loss of life or bodily harm.	4.7	Very Much Aware
School heads shall take the lead role in planning activities to promote a safe school environment.	4.6	Very Much Aware
All concerned DepEd officials and personnel are directed to observe weather bulletins of PAGASA announced through various media outlets.	4.5	Very Much Aware
Schools shall practice segregation, reduction, recycling, and re-using of solid wastes.	4.4	Very Much Aware
School heads shall ensure the participation of students, teachers, parents, community members, local authorities, and other concerned stakeholders in promoting safe school environment.	4.3	Very Much Aware
Concerned local DepEd officials are directed to establish effective lines of communications with their respective LGU.	4.3	Very Much Aware
Every school shall have a garden with vegetables and root crops which can be consumed at times the school is used as evacuation center.	4.3	Very Much Aware
The school shall mainstream disaster risk reduction concepts in the school curriculum.	4.2	Very Much Aware
Schools shall formulate Disaster Risk Reduction Plan	4.1	Much Aware
The DepEd Disaster Risk Reduction Manual shall be the source of information of the school heads, supervisors, administrators and teachers relative to DRR implementation.	4.1	Much Aware
Sub-mean	4.4	Very Much Aware

Table 3. Level of awareness of the respondents on disaster risk reduction measures in terms of organizational structure

Indicators	Mean	Interpretation
School Disaster Risk Reduction Group or committee should be formed	4.4	Very Much Aware
Disaster Risk Reduction and Management Focal Person should be designated	4.2	Very Much Aware
Capabilities for the members of the DRR Group should be assessed	4.1	Much Aware
There must be clear definition of the roles and functions of each team and its members	4.1	Much Aware
Disaster Risk Reduction and Management Office should be designated	4.1	Much Aware
There must be an Incident Command System in the school that can be activated in times of emergency	4.0	Much Aware
Volunteers should be organized	3.9	Much Aware
Disaster Assessment Team and the Needs Analysis Team, Search and Rescue Team, Medical Team, Fire Suppression Team, Relief and Evacuation Team and other Response Teams should be formed	3.9	Much Aware
Sub-mean	4.1	Much Aware

Table 4. Level of awareness of the respondents on disaster risk reduction measures in terms of mitigation measures ensuring the safety of pupils and school personnel

Indicators	Mean	Interpretation
Pupils and school personnel should participate in drills	4.6	Very Much Aware
Pupils and school personnel should be educated what to do before, during and after disasters	4.5	Very Much Aware
Emergency exits should be identified	4.3	Very Much Aware
Safe places where children and school personnel can go in case of emergencies should be identified	4.3	Very Much Aware
First Aid kits should be ready for use by the First Aiders or teachers	4.3	Very Much Aware
Evacuation/exit plan on every floor of the building should be in place	4.2	Very Much Aware
Early warning devices and signages should be installed	4.2	Very Much Aware
Sub-mean	4.3	Very Much Aware

Such trend can be brought by the thought that it was already enough that most schools had DRR committees. Given that the number of school personnel in most schools was insufficient to form the above stated teams, schools only managed to have at least a focal person or a committee by designation of the school heads.

The Department of Education emphasized that the school head should take the lead to involve the parents and the entire community and ensure their participation in preparing for disasters.

3.1.4 Mitigation measures

Table 4 revealed that the respondents were very much aware of mitigation measures to ensure the safety of pupils and school personnel with a sub-mean of 4.3. This result implies that the school heads in the Balicuatro Area had high

awareness level on how to keep the safety of the pupils, other school personnel and themselves.

Respondents were very much aware that pupils and school personnel should participate in drills (\bar{x} =4.6). Majority of the respondents indicated very much awareness on pupils and school personnel should be educated what to do before, during and after disasters with a mean of 4.5; and that emergency exits should be identified, safe places where children and school personnel can go in case of emergencies should be identified, and first aid kits should be ready for use by the first aiders or teachers with a mean of 4.3. Also, the respondents indicated very much awareness that evacuation/exit plan on every floor of the building should be in place and early warning devices and signages should be installed with a mean of 4.2.

The participation of the pupils and the school personnel, having the highest mean confirmed the statement of the Department of Education that the conduct of drills aims to generate the highest level of awareness. It is because the department mandated to conduct quarterly hazard drills such as earthquake drill, fire drill, and other drills for any hazards in the schools.

It was found that the respondents possessed low awareness on putting in place exit/evacuation plans and early warning devices and signages. This is in contrast to the international Hyogo Framework for Action to prioritize the enhancement of early warning systems. Such finding is affected by the unavailability of resources, especially financial.

3.2 Status of Implementation of the Schools on the Disaster Risk Reduction Measures

3.2.1 Information dissemination and advocacy campaign

The result in Table 5 shows that the level of implementation of disaster risk reduction measures in terms of information dissemination and advocacy campaign was high with a sub-mean of 4.1. This implies that the respondents implemented the measures in terms of this variable to a certain extent. Majority of the respondents indicated high implementation level of disseminated information on hazards in school to pupils, teachers, community and stakeholders with a mean of 4.1; observed National Disaster Consciousness Month and the related activities with a mean of 3.9; disaster risk reduction concepts are integrated in lessons and held training on first aid had 3.8 as its mean; conducted/attended training/seminar/orientation on developing a disaster risk reduction plan which had 3.7 as its mean; conducted/attended capability building on the organization of disaster risk reduction groups with a mean of 3.6; and held training on conducting hazard drills and spearheaded capacity-building on the utilization of Disaster Risk Reduction Manual, both with mean of 3.5. Implementation level was lowest on conduction of capability building for all the members of the disaster risk reduction group with a mean of 3.3.

It can be inferred that the pupils, teachers, community and stakeholder were informed by the school of the hazards prevalent in the school. This is a manifestation that the internal and

external stakeholders of the schools took part in promoting the culture of safety. The high implementation further affirms the statement of the Department of Education that involvement of students, teachers and the community is an effective method of raising awareness about disaster risk reduction. However, it was found that the conduct of capability building for all the members of the disaster risk reduction group had the lowest mean. Therefore, the study submit that the DRR groups and committees in the schools were formed but not significantly capacitated with the tasks they were into. Although, DepEd DRR Manual stated that there should be capability building for the members of the DRR group or committee so that actions will become more systematic, however most schools did not realize it.

3.2.2 Policy mechanisms

Table 6 presents the result on the status of implementation in terms of policy mechanisms. It shows that policy mechanisms had a sub-mean of 4.1, connoting high level of implementation and this implies that the respondents practiced to some extent the measures listed.

Majority of the respondents indicated very high implementation on cancelled or suspended classes in cases where urgent action is needed to prevent loss of life or bodily harm with a mean of 4.4. Majority observed weather bulletins of PAGASA announced through various media outlets with a mean of 4.3; established effective lines of communications with their respective LGU and practiced segregation, reduction, recycling, and re-using of solid wastes with a mean of 4.2.

Ensuring the participation of students, teachers, parents, community members, local authorities, and other concerned stakeholders in promoting safe school environment was highly implemented by school heads with a mean of 4.1; and led in planning activities to promote a safe school environment had a mean of 4.0; formulated the school's disaster risk reduction plan, established a garden with vegetables and root crops which can be consumed when the school is used for evacuation, and mainstreamed disaster risk reduction concept in the school curricula had a mean of 3.9 each. The use of DepEd Disaster Risk Reduction Manual as the source of information of the school heads, supervisors, administrators and teachers relative to DRR implementation had the lowest mean of 3.8 which also connotes high implementation level.

Cancellation and suspension of classes where urgent action is needed to prevent loss of life or bodily harm got the highest mean which implies that the school heads highly implemented this measure. The government reiterated this rule as part of Executive Order No. 66. The findings therefore confirm that the rules on cancellation and suspension of classes and work in the government were compiled by the schools.

Table 5. Status of implementation of disaster risk reduction measures in terms of information dissemination and advocacy campaign

Indicators	Mean	Interpretation
Disseminated information on hazards in school to pupils, teachers, community and stakeholders	4.1	Highly Implemented
Observed National Disaster Consciousness Month and the related activities	3.9	Highly Implemented
Disaster risk reduction concepts are being integrated in lessons	3.8	Highly Implemented
Held training on First Aid	3.8	Highly Implemented
Conducted/attended training/seminar/orientation on <i>developing a disaster risk reduction plan</i>	3.7	Highly Implemented
Conducted/attended capability building on <i>the organization of disaster risk reduction groups</i>	3.6	Highly Implemented
Held training on conduction hazard drills	3.5	Highly Implemented
Spearheaded capacity-building on <i>the utilization of Disaster Risk Reduction Manual</i>	3.5	Highly Implemented
Conducted capability building to all the members of the Disaster Risk Reduction Group	3.3	Implemented
Sub-mean	4.1	Highly Implemented

Table 6. Status of implementation of disaster risk reduction measures in terms of policy mechanisms

Indicators	Mean	Interpretation
Cancelled or suspended classes in cases where urgent action is needed to prevent loss of life or bodily harm.	4.4	Very Highly Implemented
Observed weather bulletins of PAGASA announced through various media outlets.	4.3	Very Highly Implemented
Established effective lines of communications with their respective LGU.	4.2	Very Highly Implemented
Practiced segregation, reduction, recycling, and re-using of solid wastes.	4.2	Very Highly Implemented
Ensured the participation of students, teachers, parents, community members, local authorities, and other concerned stakeholders in promoting safe school environment.	4.1	Highly Implemented
Led in planning activities to promote a safe school environment.	4.0	Highly Implemented
Formulated the school's Disaster Risk Reduction Plan.	3.9	Highly Implemented
Established a garden with vegetables and root crops which can be consumed when the school is used for evacuation.	3.9	Highly Implemented
Mainstreamed disaster risk reduction concept in the school curricula.	3.9	Highly Implemented
Used the DepEd Disaster Risk Reduction Manual as the source of information of the school heads, supervisors, administrators and teachers relative to DRR implementation.	3.8	Highly Implemented
Sub-mean	4.1	Highly Implemented

As to the utilization of the DRR manual, DepEd Order No. 55, s. 2007 stipulated to prioritize the utilization of DRR Resource Manual. Therefore, findings of this study in relation to utilization of the manual contrasted to that order.

3.2.3 Organizational structure

The result in Table 7 reveals that majority of the respondents indicated high level of implementation with a sub-mean of 3.6 of disaster risk reduction measures in terms of organizational structure.

The respondents indicated high implementation of assessment of the capabilities of the members of the DRR group with a mean of 4.0; designated disaster risk reduction and management focal person with 3.8 as mean; formed disaster risk reduction group or committee and clearly defined the roles and functions of each team and its members which had a mean of 3.7; established an incident command system in the school that can be activated in times of emergency with 3.6 as mean; designated disaster risk reduction and management office and organized volunteers with 3.5 as mean. Moreover, the school heads also indicated implementation of the formation of the disaster assessment and the needs analysis team, search and rescue team, medical team, fire suppression team, relief and evacuation team and other response teams with a mean of 3.3.

The school heads assessed the capabilities of the members of the DRR group. Having the

highest mean, the respondents practiced this measure before selecting the members of the group. The assessment was also the basis of conducting capability building activities for the group. The indicator on forming teams to work on disaster assessment, needs analysis, search and rescue, medical, fire suppression, relief and evacuation, and other response teams which had lowest implementation also had lowest level of awareness for the same indicator. This can be due to limited human workforce available in most of the schools.

3.2.4 Mitigation measures

In Table 8, result reveals that the status of implementation of disaster risk reduction measures in terms of mitigation measures in ensuring the safety of the pupils and school personnel were highly implemented with a sub-mean of 3.9.

The respondents indicated highest implementation of identifying safe places where children and school personnel can go in case of emergencies with a mean of 4.7; and, pupils and school personnel participated in drills which had a mean of 4.2. The school heads also highly implement measures in educating pupils and school personnel on what to do before, during and after disaster with a mean of 4.1; prepared first aid kits ready for use by the first aider or the teacher had mean of 3.9; identified emergency exits had mean of 3.7; posted evacuation/exit plan and installed early warning devices and signages had mean of 3.6.

Table 7. Status of implementation of disaster risk reduction measures in terms of organizational structure

Indicators	Mean	Interpretation
Assessed the capabilities for the members of the DRR Group	4.0	Highly Implemented
Designated Disaster Risk Reduction and Management Focal Person	3.8	Highly Implemented
Formed Disaster Risk Reduction Group or committee	3.7	Highly Implemented
Clearly defined the roles and functions of each team and its members	3.7	Highly Implemented
Established an Incident Command System in the school that can be activated in times of emergency	3.6	Highly Implemented
Organized volunteers	3.5	Highly Implemented
Designated Disaster Risk Reduction and Management Office	3.5	Highly Implemented
Formed the Disaster Assessment and the Needs Analysis Team, Search and Rescue Team, Medical Team, Fire Suppression Team, Relief and Evacuation Team and other Response Teams	3.3	Implemented
Sub-mean	3.6	Highly Implemented

It was found that the identification of safe places where children and school personnel can go in case of emergencies” had the highest mean. It is an important measure done before the occurrence of disasters so that when emergencies strike, pupils and school personnel already know where to go which makes the action more systematic. Most of the respondents positively responded to this because it is simply naming or pointing of safe place.

The indicator with the lowest mean which is on early warning devices and signages is in contrast to Hyogo Framework for Action’s priority to enhance early warning system.

3.2.5 Hypothesis testing

To test the null hypothesis that there is no significant relationship between the level of awareness of the respondents and the status of implementation of disaster risk reduction measures of the schools, the multiple regression analysis was used.

Table 9 presents the result which revealed that the value of the F-Ratio of 55.1643 was higher than the significant F-Value of 2.4100, which led to the rejection of the null hypothesis, which means that there was a significant relationship between the variables. The coefficient of

determination of 44.7% indicated the degree of relationship between these two variables.

It means that the awareness of the school heads of the elementary schools in the Balicuatro Area of Northern Samar on disaster risk reduction measures affected their implementation. The more the school heads were aware of the different measures in terms of information and dissemination campaign, policy mechanisms, organizational structure, and mitigation measures to ensure the safety of the pupils, personnel, properties and records, the more that they can implement these measures. School heads tend to implement programs which they are aware of.

The significant relationship confirms M. R. Cohen’s statement that people with more environmental information tend to have more favorable attitudes towards environmental conservation. Environmental information touches awareness, and favorable attitudes towards environmental conservation pertain to measures implemented.

This finding also confirms Edmund Husserl’s Social Phenomenology which reveals what human awareness plays in the production of social actions. The product of the awareness of the school heads on disaster risk reduction measures reflects in their implementation.

Table 8. Status of implementation of disaster risk reduction measures in terms of mitigation measures ensuring the safety of pupils and school personnel

Indicators	Mean	Interpretation
Identified safe places where children and school personnel can go in case of emergencies	4.7	Very Highly Implemented
Pupils and school personnel participated in drills	4.2	Very Highly Implemented
Educated pupils and school personnel what to do before, during and after disasters	4.1	Highly Implemented
Prepared First Aid kits ready for use by the first aider or the teacher	3.9	Highly Implemented
Identified emergency exits	3.7	Highly Implemented
Posted evacuation/exit plan	3.6	Highly Implemented
Installed early warning devices and signages	3.6	Highly Implemented
Sub-mean	3.9	Highly Implemented

Table 9. Relationship between level of awareness and status of implementation of disaster risk reduction measures of the respondents

	F-ratio	Significant F	Coefficient of determination	Interpretation
Level of awareness	55.1643	2.4100	44.7%	Significant

4. CONCLUSION

The study affirms that the respondents were aware of information dissemination and advocacy campaign, organizational structure and mitigation measures on ensuring the safety of the school records and majority of the respondents had high awareness of policy mechanisms, mitigation measures on ensuring the safety of pupils and school personnel and the safety of school properties.

The study established high implementation level in terms of information dissemination and advocacy campaign, policy mechanisms, organizational structure, mitigation measures on ensuring the safety of pupils and school personnel, ensuring the safety of school properties and ensuring safety of school records.

Thus, the respondents possess knowledge on DRR measures. It was concluded that they are aware of the disaster risk reduction measures. It implies that the different forms of media used by the Department of Education and other government and non-government agencies which include prints and social media contributed to their awareness. As to the status of implementation, it was concluded that the schools highly implemented disaster risk reduction measures. The impacts of the disasters that the schools experienced, the mainstreaming of DRR in the School Improvement Plan (SIP), and orders mandated by DepEd and other agencies related to DRR contributed to this.

Since there is a significant relationship between the level of awareness of the respondents and the status of implementation of disaster risk reduction measures, it can be implied that disaster risk reduction in the Balicuatro Area is widespread. Though it has not been implemented systematically, it depends on the

awareness of the school heads and other school personnel.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline participant consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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