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# ASSESSING THE LEVEL OF SCHOOLS' DISASTER PREPAREDNESS IN THE CITY SCHOOLS DIVISION OF CABUYAO

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**ABSTRACT**

***The primary objective of this study is to provide insights in assessing the level of preparedness of schools in disaster risk reduction of nine (9) secondary schools in identified prone areas in Cabuyao City. The researcher employed the descriptive evaluative design and used frequency percentage, weighted mean, and chi square to present and analyze the data. A questionnaire-checklist instrument developed by the National Disaster Risk Reduction Management Council (NDRRMC) answered by the School's DRRM or school's head.***

**KEYWORDS:** ***disaster, disaster preparedness, risk reduction, vulnerability, risk assessment***

## INTRODUCTION

Disasters originate in the fact that all societies regularly face geo-physical, climatological, and technological events that reveal the physical and social vulnerabilities. In response, societies engage in activities and develop technologies that are designed to provide protection from such threats. And it is important to note that geographically, Asia is the continent with highest toll of natural disasters (e.g., in 2012, it accounted for 40.7% of disasters and 64.5% of disaster victims). Discrepancies in between number of events and victims, with Asia bearing the brunt of both events and losses, highlights the urgent need for more disaster risk reduction efforts to be directed to Asian countries. However, do people prepare to face disaster when it struck? Can people (individual, community, and institutions like schools) lessen the impact of disaster?

The Philippines ranks 4th in countries hardest hit by disasters in 2015, a report by the United Nation Office for Disaster Risk Reduction (UNISDR) said. Also, a very alarming research conducted by risk analysis firm Verisk Maplecoft showed that 8 out of 10 cities most exposed to natural hazards are found in the Philippines. This situation highlights the need for Filipinos to reduce their exposure to risks by preparing for and mitigating the impact of natural disasters.

It is true that no one can prevent the earth from shaking, the wind from blowing, or the rain from falling. However, with assessment and planning, physical and environmental protection and response preparedness people at stake can prevent these events from becoming disasters.

The Department of Education, as provider of basic education, serves seventeen million (17 million) children in the school year of 2007-2008. And this will be the number of life losses if the schools undermine the disaster preparedness. The destruction brought about by the series of typhoons alone swept the country in 2006 resulted in damage to 5,600 schools in Southern Tagalog with estimated cost at about PhP 3.1 billion and affected about 8 million school children in both elementary and secondary schools.

Thus, preparedness in school level requires serious attention. If preparedness identifies the steps necessary to increase the likelihood of avoiding or minimizing the hazard's effects and consequences; and, strategies that are developed through hazard identification and mapping, vulnerability analysis and risk assessment, there will be no disasters at all.

As stated by Carter (2001), apart from family and community, the second important grooming ground for children is a school, where children are imparted more knowledge and skills. It is expected that these

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places should be safe environment for children. It is unfortunate to expose children to vulnerable environment unknowingly or knowingly. School safety is a human concern for every school and community. It must be taken seriously. It is also a legal concern because schools can be held liable if they do not make efforts to provide a safe and secure school environment. How schools are built and maintained is an integral part of school safety or disaster preparedness. Schools with inadequate disaster preparedness are more vulnerable to disaster.

School is the basis of children communities. They ought to be protected and simultaneously, their knowledge on disasters needs to be increased. School is a very reliable institution by the Philippine society to 'take care' of children.

For that reason, Republic Act No. 10121 was created, known as the Philippine Disaster Risk Reduction and Management (DRRM) Act of 2010. It is an act mandated to strengthen disaster management in the Philippines, a country prone to natural hazards. It also emphasizes strengthening local governments and the importance of local communities. It institutionalizes the participation of civil society organizations (CSOs) and the private sector.

Pursuant to R.A. 10121, DepEd Order No. 50, s. 2011 entitled Creation of Disaster Risk Reduction and Management Office (DRRMO), the DepEd issues the enclosed Coordination and Information Management Protocols for the schools, schools division offices (SDOs) and regional offices (ROs) and coordinators to establish the system of coordination and information management and provide guidance to DepEd field offices, schools and DRRM coordinators on their respective roles and functions relative to DRRM implementation.

## METHODS AND MATERIALS

The researcher employed standard principles of scientific method of research design-purposive sampling techniques. And to prove facts, this study used a questionnaire-checklist instrument developed by the National Disaster Risk Reduction Management Council, and in a descriptive evaluative design.

Upon the approval of the proposal, the researcher readied the research instrument. Since the researcher used a standardized test, it was no longer be needed to undergo content validation process. A letter of request to conduct the study addressed to the Dean of the College of Teacher Education was prepared. The same with the City Schools Division Superintendent of the City Schools Division of Cabuyao that sought approval to do the study at the secondary schools identified in Cabuyao City of Laguna pertaining to school disaster risk reduction management.

The questionnaire-checklist from the NDRRMC was composed of the following: Part 1 is the Schools' Profile which comprise of the Demographic Profile that include the total number of male and female students, students with health issues and students with special needs. Also, taken into account the number of buildings, and the number of classrooms. Part 2 is the National Disaster Risk Reduction and Management Council's Comprehensive School Safety Checklist that consist of Enabling Environment, Pillar 1: Safe Learning Facilities, Pillar 2: School Disaster Risk Management, Pillar 3: Disaster Risk Reduction in Education.

Percentage was used to present and analyze data regarding the demographic profile and National Disaster Risk Reduction Management Council Questionnaire-Checklist of the respondents.

Frequency percentage. weighted mean, and chi square was used to present and analyze data regarding the level of awareness of the respondents in Disaster Risk Reduction Management.

## RESULTS AND DISCUSSION

Assessing the Level of Schools' Disaster Preparedness in the City Schools Division of Cabuyao

**Table 1. Level of School's Disaster Preparedness in terms of Enabling Environment.**

Table 1 reveals the level of schools' disaster preparedness in terms of Enabling Environment.

| | CRITERIA | Points Received | Percentage Received | Verbal Interpretation |
|---|---|---|---|---|
| 1 | Adopted/Adapted/localized at least 3 existing policies relating to DRRM/CCAE/EiE in education/school safety | 9 | 100 | Exceeds Preparedness |
| 2 | Formed School DRRM Team, with a focal person and consisting of personnel with defined membership and roles and responsibilities/functions. | 9 | 100 | Exceeds Preparedness |

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| | | | | |
|---|---|---|---|---|
| 3 | Has comprehensive School DRRM Plan/Action Plan covering risk assessment, risk reduction, and rehabilitation and recovery | 8 | 89 | Meets Preparedness |
| 4 | School budget supports regular DRRM activities | 5 | 56 | Does Not Meets Preparedness |
| 5 | Involved students in DRRM planning | 8 | 89 | Meets Preparedness |
| 6 | Incorporated results of student-led school watching and hazard mapping in the School DRRM Plan and School Improvement Plan (SIP) | 7 | 78 | Does Not Meets Preparedness |
| 7 | 100% completion of DRR related questions in the EMIS/EBEIS | 6 | 67 | Does Not Meets Preparedness |
| 8 | School has partnerships that could be tapped to support its DRRM programs and activities, including those during after a disaster | 8 | 89 | Meets Preparedness |

Average Point Achieved 7.5 Possible Points 9
Average Percentage Achieved 83 Possible Percentage 100

Legend:
Exceeds Preparedness 92 to 100
Meets Preparedness 80 to 91
Does Not Meet Preparedness 0 to 79

For criteria numbers 1 and 2 in Enabling Environment, schools received points are 9 with a percentage of 100 or 9 out of 9 and with verbal interpretations of "Exceeds Preparedness" that say they Adapted/adopted localized at least three (3) existing policies relating to DRRM/CCAE/EiE in education/school safety, and they formed School DRRM Team, with a focal person and consisting of personnel with defined membership and roles and responsibilities/functions. In criterion number 3, schools "Meet Preparedness" and received points are 8 with a percentage of 89 or 8 out of 9 and say they have comprehensive School DRRM Plan/Action Plan covering risk assessment, risk reduction, and rehabilitation and recovery. Criterion number 4 "Does Not Meets Preparedness" to the claim that the school budget supports regular DRRM activities with only 5 points received with percentage of 56 or 5 out of 9 school respondents. In criterion number 5, School DRRM "Meets Preparedness" that their students are involved in DRRM planning with a received point of 8 or with a percentage of 89 or 8 out of 9 school respondents. As to criterion number 6, schools received points were 7 with a percentage of 78 or 7 out of 9 school respondents and with verbal interpretations of "Does Not Meets Preparedness" that says they incorporated results of student-led school watching and hazard mapping in the School DRRM Plan and School Improvement Plan (SIP). It is also observed that public junior and senior high schools in Cabuyao City "Does Not Meets Preparedness" in 100% completion of DRR related questions in the EMIS/EBEIS with a received point of 6 or with a percentage of 67 or 6 out 9 school respondents. Furthermore, they "Do Meet Preparedness" in school has partnerships that could be tapped to support its DRRM programs and activities, including those during after a disaster with a received point of 8 and with a percentage of 89 or 8 out 9 respondents claimed it.

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**Table 2. Level of School's Disaster Preparedness in terms of Pillar 1: Safe Learning Facilities**
Table 2 reveals the level of schools' disaster preparedness in terms of Pillar 1: Safe Learning Facilities.

| | CRITERIA | Points Received | Percentage Received | Verbal Interpretation |
|---|---|---|---|---|
| 1 | School building/classroom components are according to DepEd and/or National Building Code approved standard design and specifications | 9 | 100 | Exceeds Preparedness |
| 2 | School conducted risk assessment of buildings, in coordination with the Education Facilities Division, and with support of other agencies and partners | 9 | 100 | Exceeds Preparedness |
| 3 | School has taken appropriate action with respect to unsafe school buildings (e.g. upgraded/retrofitted, non-usage, etc.) | 9 | 100 | Exceeds Preparedness |
| 4 | Undertaken regular inspection and repair of minor classroom (including facilities) damages | 9 | 100 | Exceeds Preparedness |
| 5 | School Heads are clear with the roles and functions of the school in camp management vis-à-vis the LGU and DSWD as per Joint Memorandum Circular No.1, series of 2013 "Guidelines on Evacuation Center Coordination and Management" and RA 10821 "Children Emergency Relief and Protection Act' and its corresponding IRR | 9 | 100 | Exceeds Preparedness |

Average Point Achieved 9 Possible Points 9
Average Percentage Achieved 100 Possible Percentage 100

Legend:

| | |
|---|---|
| Exceeds Preparedness | 92 to 100 |
| Meets Preparedness | 80 to 91 |
| Does Not Meet Preparedness | 0 to 79 |

The public Junior and Senior High Schools in the City Schools Division of Cabuyao claimed that in the level of schools' disaster preparedness in terms of Pillar 1: Safe Learning Facilities they "Exceeds Preparedness" from a received points of 9 with a 100% or 9 out of 9 respondents in all criteria from school building/classroom components are according to DepEd and/or National Building Code approved standard design and specifications; School conducted risk assessment of buildings, in coordination with the Education Facilities Division, and with support of other agencies and partners; School has taken appropriate action with respect to unsafe school buildings (e.g. upgraded/retrofitted, non-usage, etc.); undertaken regular inspection and repair of minor classroom (including facilities) damages; and School Heads are clear with the roles and functions of the school in camp management vis-à-vis the LGU and DSWD as per Joint Memorandum Circular No.1, series of 2013 "Guidelines on Evacuation Center Coordination and Management" and RA 10821 "Children Emergency Relief and Protection Act' and its corresponding IRR respectively.

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**Table 3. Level of School's Disaster Preparedness in terms of Pillar 2: School Disaster Risk Management**

Table 3 reveals the level of school's disaster preparedness in terms of Pillar 2: School Disaster Risk Management.

| | CRITERIA | Points Received | Percentage Received | Verbal Interpretation |
|---|---|---|---|---|
| 1 | School has a Contingency Plan, i.e. Preparedness Plan turned into response actions when a disaster strikes | 8 | 89 | Meets Preparedness |
| 2 | 80% of students and their families have accomplished the Family Preparedness Plan together (family evacuation, reunification), as per DO No. 27, s. 2015 | 1 | 11 | Does Not Meets Preparedness |
| 3 | School has established a school personnel and learners tracking system/protocol in the event of a disaster or emergency | 9 | 100 | Exceeds Preparedness |
| 4 | Hazard and evacuation maps are located in conspicuous places in the school | 6 | 67 | Does Not Meets Preparedness |
| 5 | School has available, accessible, and adequate first aid kit in every instructional classroom | 5 | 56 | Does Not Meets Preparedness |
| 6 | School has at least 2 necessary and functioning equipment, in case of a disaster (e.g. fire extinguisher, handheld/base radio, generator, etc.) | 8 | 89 | Meets Preparedness |
| 7 | School conducted regular hazard-specific drills (at least 3 hazards) with participation of stakeholders (BFP, Medic, LGUs, NGOs, community, PTA, alumni, and others) | 4 | 44 | Does Not Meets Preparedness |
| 8 | School has established functional early warning system to inform students and personnel of hazards and emergencies (protocol, warning signs, devices, IEC), considering national and LGU warning systems and protocols | 7 | 78 | Does Not Meets Preparedness |
| 9 | School has pre-identified spaces for putting up Temporary Learning spaces/Shelters in the aftermath of a disaster or emergency | 9 | 100 | Exceeds Preparedness |
| 10 | School has trained personnel to administer first aid to students and personnel | 5 | 56 | Does Not Meets Preparedness |
| 11 | School has ready resumption strategies and alternative delivery modes to ensure education continuity (strategies, materials, focal persons to implement) | 8 | 89 | Meets Preparedness |
| 12 | School has trained teachers and other personnel who could provide psychosocial support to students | 5 | 56 | Does Not Meets Preparedness |
| 13 | School has an evacuation plan and procedures | 9 | 100 | Exceeds Preparedness |
| 14 | School has conducted awareness and capacity building for families and learners | 4 | 44 | Does Not Meets Preparedness |
| 15 | School participated in the different DRRM/CCA/EiE activities of the LGU | 7 | 78 | Does Not Meets Preparedness |

Average Point Achieved 7 Possible Points 9
Average Percentage Achieved 70 Possible Percentage 100

Legend:
Exceeds Preparedness 92 to 100
Meets Preparedness 80 to 91
Does Not Meet Preparedness 0 to 79

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In criterion number 1, schools' "Meets Preparedness" in terms of school has a Contingency Plan, i.e. Preparedness Plan turned into response actions when a disaster strikes with a received point of 8 and with a percentage of 89 or 8 out 9 respondents claimed it. While, only 1 received point and with a percentage of 11 or 1 out 9 respondents say 80% of students and their families have accomplished the Family Preparedness Plan together (family evacuation, reunification), as per DO No. 27, s. 2015. It is also observed that they "Exceed Preparedness" in criterion number 3 with 9 received points and perfect percentage of 100 or 9 out of 9 respondents believed that their school has established a school personnel and learners tracking system/protocol in the event of a disaster or emergency. Moreover, only 6 received points with 67% or 6 out of 9 respondents say it "Does Not Meets Preparedness" level in Hazard and evacuation maps are in conspicuous places in the school. It is also equally important to notice that in criterion number 5 in which school has available, accessible, and adequate first aid kit in every instructional classroom, schools "Does Not Meets Preparedness" with a received point of 5 and with 57% or 5 out of 9 school respondents.

**Table 4. Level of School's Disaster Preparedness in terms of Pillar 3: DRR in Education**

Table 4 reveals the level of school's disaster preparedness in terms of Pillar 3: DRR in Education.

| | CRITERIA | Points Received | Percentage Received | Verbal Interpretation |
|---|---|---|---|---|
| 1 | School has integrated key DRRM/CCA/EiE concepts in at least 4 subjects based on the national Curriculum Guide | 5 | 56 | Does Not Meets Preparedness |
| 2 | More than 75% of students are actively participating in various DRRM/CCA/EiE activities | 9 | 100 | Exceeds Preparedness |
| 3 | School has a DRRM/CCA/EiE capacity building plan for teachers and personnel | 7 | 78 | Does Not Meets Preparedness |
| 4 | School Head and personnel have received at least 3 DRRM/CCA/EiE resource materials are available in the school | 8 | 89 | Meets Preparedness |
| 5 | At least more than 10 DRRM/CCA/EiE resource materials are available in the school | 6 | 67 | Does Not Meets Preparedness |
| 6 | Presence of DRRM corner, with updated IEC materials posted in it, in every classroom | 8 | 89 | Meets Preparedness |

Average Point Achieved 7.17 Possible Points 9
Average Percentage Achieved 80 Possible Percentage 100

Legend:

| | |
|---|---|
| Exceeds Preparedness | 92 to 100 |
| Meets Preparedness | 80 to 91 |
| Does Not Meet Preparedness | 0 to 79 |

In criterion number 1, schools "does not meet preparedness" in terms of "School has integrated key DRRM/CCA/EiE concepts in at least 4 subjects based on the national curriculum guide", with received points of 5 with 56% or 5 out of 9 respondents claimed it. Criterion number 2 "exceeds preparedness" in terms of "More than 75% of students are actively participating in various DRRM/CCA/EiE activities" with 100% or 9 out of 9

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respondents claimed it. Criterion number 3 "does not meet preparedness" in terms of "School has a DRRM/CCA/EiE capacity building plan for teachers and personnel" with received points of 7 with 78% or 7 out of 9 respondents claimed it. Criterion number 4 "meets preparedness" in terms of "School Head and personnel have received at least 3 DRRM/CCA/EiE resource materials are available in the school" with received points of 8 with 89% or 8 out of 9 respondents claimed it. Criterion number 5 "does not meet preparedness" in terms of "At least more than 10 DRRM/CCA/EiE resource materials are available in the school" with received points of 6 with 67% or 6 out of 9 respondents claimed it. Criterion number 6 "meets preparedness" in terms of "Presence of DRRM corner, with updated IEC materials posted in it, in every classroom" with receives points of 8 with 89% or 8 out of 9 respondents claimed it.

**Significant Difference on the Schools' Disaster Preparedness in terms of Enabling Environment**

**Table 5. Significant Difference on the Schools' Disaster Preparedness in terms of Enabling Environment.**
The table 5 reveals the chi square analysis on the Significant Difference on the Schools' Disaster Preparedness in terms of Enabling Environment.

| | Response | Hypothesized | Observed | Expected | Residual | p-Value | Test Statistics | CV | VI |
|---|---|---|---|---|---|---|---|---|---|
| #1 | Yes | 0.5 | 9 | 4.5 | 4.5 | 0.00270 | 9 | 3.84 | **NS** |
| | No | 0.5 | 0 | 4.5 | -4.5 | | | | |
| Total | | | 9 | 9 | | | | | |
| #2 | Yes | 0.5 | 9 | 4.5 | 4.5 | 0.00270 | 9 | 3.84 | **NS** |
| | No | 0.5 | 0 | 4.5 | -4.5 | | | | |
| **Total** | | | 9 | | | | | | |
| #3 | Yes | 0.5 | 8 | 4.5 | 3.5 | 0.01963 | 5.44 | 3.84 | **NS** |
| | No | 0.5 | 1 | 4.5 | -3.5 | | | | |
| **Total** | | | 9 | | | | | | |
| #4 | Yes | 0.5 | 5 | 4.5 | 0.5 | 0.73888 | 0.11 | 3.84 | **NS** |
| | No | 0.5 | 4 | 4.5 | -0.5 | | | | |
| **Total** | | | 9 | | | | | | |
| #5 | Yes | 0.5 | 8 | 4.5 | 3.5 | 0.01963 | 5.44 | 3.84 | **NS** |
| | No | 0.5 | 1 | 4.5 | -3.5 | | | | |
| **Total** | | | 9 | | | | | | |
| #6 | Yes | 0.5 | 7 | 4.5 | 2.5 | 0.09558 | 2.78 | 3.84 | **NS** |
| | No | 0.5 | 2 | 4.5 | -2.5 | | | | |
| **Total** | | | 9 | | | | | | |
| #7 | Yes | 0.5 | 6 | 4.5 | 2.5 | 0.31731 | 1 | 3.84 | **NS** |
| | No | 0.5 | 3 | 4.5 | -1.5 | | | | |
| **Total** | | | 9 | | | | | | |
| #8 | Yes | 0.5 | 8 | 4.5 | 3.5 | 0.01963 | 5.44 | 3.84 | **NS** |
| | No | 0.5 | 1 | 4.5 | -3.5 | | | | |
| **Total** | | | 9 | | | | | | |

The result of the analysis in the Significant Difference on the Schools' Disaster Preparedness in terms of Enabling Environment shows that the adopted/adapted/localized at least 3 existing policies relating to DRRM/CCAE/EiE in education/school safety; formed School DRRM Team, with a focal person and consisting of personnel with defined membership and roles and responsibilities/functions; has comprehensive School DRRM Plan/Action Plan covering risk assessment, risk reduction, and rehabilitation and recovery; school budget supports regular DRRM activities; involved students in DRRM planning; incorporated results of student-led school watching and hazard mapping in the School DRRM Plan and School Improvement Plan (SIP); 100% completion of DRR related questions in the

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EMIS/EBEIS; and school has partnerships that could be tapped to support its DRRM programs and activities, including those during after a disaster are not significant with the p-values of 0.00270, 0.00270, 0.01963, 0.73888, 0.01963, 0.09558, 0.31731, and 0.01963 respectively which are less than the critical-value of 3.84.

**Table 6. Significant Difference on the Schools' Disaster Preparedness in terms of Pillar 1: Safe Learning Facilities.**

Table 6 shows the chi square analysis on the Significant Difference on the Schools' Disaster Preparedness in terms of Pillar 1: Safe Learning Facilities.

| Criteria | Response | Hypothesized | Observed | Expected | Residual | p-Value | Test Statistics | CV | VI |
|---|---|---|---|---|---|---|---|---|---|
| #1 | Yes | 0.5 | 9 | 4.5 | 4.5 | 0.0027 | 9 | 3.841459 | **NS** |
| | No | 0.5 | 0 | 4.5 | -4.5 | | | | |
| Total | | | 9 | 9 | | | | | |
| #2 | Yes | 0.5 | 9 | 4.5 | 4.5 | 0.0027 | 9 | 3.841459 | **NS** |
| | No | 0.5 | 0 | 4.5 | -4.5 | | | | |
| Total | | | 9 | | | | | | |
| #3 | Yes | 0.5 | 9 | 4.5 | 3.5 | 0.0027 | 9 | 3.841459 | **NS** |
| | No | 0.5 | 0 | 4.5 | -3.5 | | | | |
| Total | | | 9 | | | | | | |
| #4 | Yes | 0.5 | 9 | 4.5 | 0.5 | 0.0027 | 9 | 3.841459 | **NS** |
| | No | 0.5 | 0 | 4.5 | -0.5 | | | | |
| Total | | | 9 | | | | | | |
| #5 | Yes | 0.5 | 9 | 4.5 | 3.5 | 0.0027 | 9 | 3.841459 | **NS** |
| | No | 0.5 | 0 | 4.5 | -3.5 | | | | |
| Total | | | 9 | | | | | | |

The result of the analysis in the Significant Difference on the Schools' Disaster Preparedness in terms of Pillar 1: Safe Learning Facilities shows that the school building/classroom components are according to DepEd and/or National Building Code approved standard design and specifications; school conducted risk assessment of buildings, in coordination with the Education Facilities Division, and with support of other agencies and partners; school has taken appropriate action with respect to unsafe school buildings (e.g. upgraded/retrofitted, non-usage, etc.); undertaken regular inspection and repair of minor classroom (including facilities) damages; and school Heads are clear with the roles and functions of the school in camp management vis-à-vis the LGU and DSWD as per Join Memorandum Circular No.1, series of 2013 "Guidelines on Evacuation Center Coordination and Management" and RA 10821 "Children Emergency Relief and Protection Act' and its corresponding IRR are not significant with the p-values of 0.0027 each which is less than the critical-value of 3.841459.

**Significant Difference on the Schools' Disaster Preparedness in terms of Pillar 2: School Disaster Risk Management**

**Table 7. Significant Difference on the Schools' Disaster Preparedness in terms of Pillar 2: School Disaster Risk Management.**

Table 7 shows the chi square analysis on the Significant Difference on the Schools' Disaster Preparedness in terms of Pillar 2: School Disaster Risk Management.

| Criteria | Response | Hypothesized | Observed | Expected | Residual | p-Value | Test Statistics | CV | VI |
|---|---|---|---|---|---|---|---|---|---|
| #1 | 0.5 | 8 | 4.5 | 4.5 | 0.5 | 0.019631 | 5.444444 | 3.841459 | **NS** |
| | 0.5 | 1 | 4.5 | -4.5 | 0.5 | | | | |
| Total | | 9 | 9 | | | | | | |
| #2 | 0.5 | 1 | 4.5 | 4.5 | 0.5 | 0.019631 | 5.444444 | 3.841459 | **NS** |
| | 0.5 | 8 | 4.5 | -4.5 | 0.5 | | | | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Total** | | 9 | | | | | | | |
| #3 | 0.5 | 9 | 4.5 | 3.5 | 0.5 | 0.0027 | 9 | 3.841459 | **NS** |
| | 0.5 | 0 | 4.5 | -3.5 | 0.5 | | | | |
| **Total** | | 9 | | | | | | | |
| #4 | 0.5 | 6 | 4.5 | 0.5 | 0.5 | 0.317311 | 1 | 3.841459 | **NS** |
| | 0.5 | 3 | 4.5 | -0.5 | 0.5 | | | | |
| **Total** | | 9 | | | | | | | |
| #5 | 0.5 | 5 | 4.5 | 3.5 | 0.5 | 0.738883 | 0.111111 | 3.841459 | **NS** |
| | 0.5 | 4 | 4.5 | -3.5 | 0.5 | | | | |
| **Total** | | 9 | | | | | | | |
| #6 | 0.5 | 8 | 4.5 | 2.5 | 0.5 | 0.019631 | 5.444444 | 3.841459 | **NS** |
| | 0.5 | 1 | 4.5 | -2.5 | 0.5 | | | | |
| **Total** | | 9 | | | | | | | |
| #7 | 0.5 | 4 | 4.5 | 2.5 | 0.5 | 0.738883 | 0.111111 | 3.841459 | **NS** |
| | 0.5 | 5 | 4.5 | -1.5 | 0.5 | | | | |
| **Total** | | 9 | | | | | | | |
| #8 | 0.5 | 7 | 4.5 | 3.5 | 0.5 | 0.095581 | 2.777778 | 3.841459 | **NS** |
| | 0.5 | 2 | 4.5 | -3.5 | 0.5 | | | | |
| Total | | 9 | | | | | | | |
| #9 | 0.5 | 9 | 4.5 | 4.5 | 0.5 | 0.0027 | 9 | 3.841459 | **NS** |
| | 0.5 | 0 | 4.5 | -4.5 | 0.5 | | | | |
| **Total** | | 9 | 9 | | | | | | |
| #10 | 0.5 | 5 | 4.5 | 4.5 | 0.5 | 0.738883 | 0.111111 | 3.841459 | **NS** |
| | 0.5 | 4 | 4.5 | -4.5 | 0.5 | | | | |
| **Total** | | 9 | | | | | | | |
| #11 | 0.5 | 8 | 4.5 | 3.5 | 0.5 | 0.019631 | 5.444444 | 3.841459 | **NS** |
| | 0.5 | 1 | 4.5 | -3.5 | 0.5 | | | | |
| **Total** | | 9 | | | | | | | |
| #12 | 0.5 | 5 | 4.5 | 0.5 | 0.5 | 0.738883 | 0.111111 | 3.841459 | **NS** |
| | 0.5 | 4 | 4.5 | -0.5 | 0.5 | | | | |
| **Total** | | 9 | | | | | | | |
| #13 | 0.5 | 9 | 4.5 | 3.5 | 0.5 | 0.0027 | 9 | 3.841459 | **NS** |
| | 0.5 | 0 | 4.5 | -3.5 | 0.5 | | | | |
| **Total** | | 9 | | | | | | | |
| #14 | 0.5 | 4 | 4.5 | 2.5 | 0.5 | 0.738883 | 0.111111 | 3.841459 | **NS** |
| | 0.5 | 5 | 4.5 | -2.5 | 0.5 | | | | |
| **Total** | | 9 | | | | | | | |
| #15 | 0.5 | 7 | 4.5 | 2.5 | 0.5 | 0.095581 | 2.777778 | 3.841459 | **NS** |
| | 0.5 | 2 | 4.5 | -1.5 | 0.5 | | | | |
| **Total** | | 9 | | | | | | | |

The result of the analysis in the Significant Difference on the Schools' Disaster Preparedness in terms of Pillar 2: School Disaster Risk Management shows that the school has a Contingency Plan, i.e. Preparedness Plan turned into response actions when a disaster strikes; 80% of students and their families have accomplished the Family Preparedness Plan together (family evacuation, reunification), as per DO No. 27, s. 2015; school has established a school personnel and learners tracking system/protocol in the event of a disaster or emergency; hazard and evacuation maps are located in conspicuous places in the school; school has available, accessible, and adequate first aid kit in every instructional classroom; school has at least 2 necessary and functioning equipment, in case of a disaster (e.g. fire extinguisher, handheld/base radio, generator, etc.); school conducted regular hazard-specific drills (at least 3 hazards) with participation of stakeholders (BFP, Medic, LGUs, NGOs, community, PTA, alumni, and others); school has established functional early warning system to inform students and personnel of hazards and emergencies (protocol, warning signs, devices, IEC),

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considering national and LGU warning systems and protocols; school has pre-identified spaces for putting up Temporary Learning spaces/Shelters in the aftermath of a disaster or emergency; school has trained personnel to administer first aid to students and personnel; school has ready resumption strategies and alternative delivery modes to ensure education continuity (strategies, materials, focal persons to implement); school has trained teachers and other personnel who could provide psychosocial support to students; school has an evacuation plan and procedures; school has conducted awareness and capacity building for families and learners; and school participated in the different DRRM/CCA/EiE activities of the LGU are not significant with the p-values of 0.019631, 0.019631, 0.0027, 0.317311, 0.738883, 0.019631, 0.738883, 0.095581, 0.0027, 0.738883, 0.019631, 0.738883, 0.0027, 0.111111, and 2.777778 respectively which are less than the critical-value of 3.841459.

**Significant Difference on the Schools' Disaster Preparedness in terms of Pillar 3: DRR in Education**

Table 8 shows the chi square analysis on the Significant Difference on the Schools' Disaster Preparedness in terms of Pillar 3: DRR in Education.

| Criteria | Response | Hypothesized | Observed | Expected | Residual | p-Value | Test Statistics | CV | VI |
|---|---|---|---|---|---|---|---|---|---|
| #1 | Yes | 0.5 | 5 | 4.5 | 4.5 | 0.73888 | 0.11 | 3.84 | **NS** |
| | No | 0.5 | 4 | 4.5 | -4.5 | | | | |
| Total | | | 9 | 9 | | | | | |
| #2 | Yes | 0.5 | 9 | 4.5 | 4.5 | 0.00270 | 9 | 3.84 | **NS** |
| | No | 0.5 | 0 | 4.5 | -4.5 | | | | |
| **Total** | | | 9 | | | | | | |
| #3 | Yes | 0.5 | 7 | 4.5 | 3.5 | 0.09558 | 2.78 | 3.84 | **NS** |
| | No | 0.5 | 2 | 4.5 | -3.5 | | | | |
| **Total** | | | 9 | | | | | | |
| #4 | Yes | 0.5 | 8 | 4.5 | 0.5 | 0.01963 | 5.44 | 3.84 | **NS** |
| | No | 0.5 | 1 | 4.5 | -0.5 | | | | |
| **Total** | | | 9 | | | | | | |
| #5 | Yes | 0.5 | 6 | 4.5 | 3.5 | 0.31731 | 1 | 3.84 | **NS** |
| | No | 0.5 | 3 | 4.5 | -3.5 | | | | |
| **Total** | | | 9 | | | | | | |
| #6 | Yes | 0.5 | 8 | 4.5 | 2.5 | 0.01963 | 5.44 | 3.84 | **NS** |
| | No | 0.5 | 1 | 4.5 | -2.5 | | | | |
| **Total** | | | 9 | | | | | | |

The result of the analysis in the Significant Difference on the Schools' Disaster Preparedness in terms of Pillar 3: DRR in Education shows that the school has integrated key DRRM/CCA/EiE concepts in at least 4 subjects based on the national Curriculum Guide; more than 75% of students are actively participating in various DRRM/CCA/EiE activities; school has a DRRM/CCA/EiE capacity building plan for teachers and personnel; school Head and personnel have received at least 3 DRRM/CCA/EiE resource materials are available in the school; at least more than 10 DRRM/CCA/EiE resource materials are available in the school; and presence of DRRM corner, with updated IEC materials posted in it, in every classroom are not significant with the p-values of 0.73888, 0.00270, 0.09558, 0.01963, 0.31731, and 0.01963 respectively which are less than the critical-value of 3.84.

## CONCLUSIONS

Considering the findings of the study based on the gathered data with regards to the schools' disaster preparedness in terms of Enabling Environment, the schools meet the preparedness in disaster. In terms of Pillar 1: Safe Learning Facilities, the schools exceed preparedness in disaster. However, in Pillar 2: School Disaster Risk Management, the schools did not meet preparedness, and in Pillar 3: DRR in Education, the schools meet disaster preparedness.

Furthermore, results show that in terms of Enabling Environment, all the p-values are less than the critical-value of 3.84, and thus, the researcher fails to

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reject the null hypothesis. Therefore, it can be concluded that there is no significant difference on the schools' disaster preparedness in terms of Enabling Environment. In Pillar 1: Safe Learning Facilities and Pillar 2: School Disaster Risk Management, the results also show that all the p-values are less than the critical-value of 3.841459, and thus, the researcher fails to reject the null hypothesis again; therefore, there is no significant difference on the schools' disaster preparedness in both Pillars. Lastly, in Pillar 3: DRR in Education, the results also show that all the p-values are less than the critical-value of 3.84, and thus, the researcher fails to reject the null hypothesis. Therefore, it is concluded that there is no significant difference on the schools' disaster preparedness in this pillar.

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