

## Disaster Risk Reduction and Management Capability of Coordinators in Schools Division Office of San Carlos City, Pangasinan

**Renson C. Dimalanta M.A.Ed., Renato E. Salcedo, Ph.D.**

*Tandoc National High School, Pangasinan State University; Open University Systems  
torn223333@gmail.com, psubcreasearch@gmail.com*

**Abstract:** *This descriptive study determined the disaster risk reduction and management capability of coordinators in Schools Division Office of San Carlos City, Pangasinan for the School Year 2017-2018 in an effort to come up with a capability enhancement program.*

*Specifically, this study determined the profile of school disaster risk reduction management coordinators in terms of age, sex, civil status, highest educational attainment, position and number of trainings in Disaster Risk Reduction and Management; the level of disaster risk reduction and management capability of coordinators in Schools Division Office of San Carlos City, Pangasinan in terms of their knowledge and practices as to prevention and mitigation, preparedness, response, and rehabilitation and recovery; and attitudes on disaster risk reduction and management; and the correlation between the profile of school disaster risk reduction and management coordinators and their level of disaster risk reduction and management capability of coordinators in Schools Division Office of San Carlos City, Pangasinan.*

*Findings revealed Majority of the respondents are middle-aged married female who are Master's Degree graduate and are Teacher III. Their trainings included school, district, division, regional, national and international conducted. They are rated as knowledgeable and having a positive attitude on disaster risk reduction management. Further, their disaster risk reduction and management is rated as "practiced". Correlational analysis revealed that knowledge, practices and attitudes of the SDRRM coordinators established a significant correlation with their profile as to age, sex, highest educational attainment and trainings.*

*Based from the conclusions, it is recommended that the School DRRM Coordinator should be encouraged and motivated to pursue higher level of education in order to update and upgrade them.*

**Keywords:** *Disaster Risk Reduction and Management, Mitigation, Preparedness, Knowledge and Practices*

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## INTRODUCTION

Emergencies can happen to any of us, anywhere and at any time. Earthquakes, volcanic eruptions, tropical cyclones, and floods continues to pose an immediate risk to health, life, property or environment and caused an immediate danger to the life of people involved [1].

Globally, statistics revealed that an estimated 157 000 000 people were directly affected by natural disasters alone in 2005. In addition, politically driven complex emergencies and crises are long-lasting and cause a great number of premature deaths and immense suffering [2].

Pangasinan is not excluded from these natural disasters that are characterized as frequent, varied, and severe; a combination which has made the country particularly attentive to disaster reduction [3]. Due to its geographic circumstances, Pangasinan has an unusually high exposure to natural hazards. It is also one of the top 20 provinces prone with combined climate- and weather-related risks [4].

With disasters becoming more frequent, children are amongst the part of the population who are considered most vulnerable. Since children spend a lot of time at school, most likely, your students would turn to teacher amidst disasters. They will expect teachers to be a part of everything that is happening to them, and wait for you to tell them what to do, help them get to safety, comfort them, support their understanding of what is happening, help to reunite them with their family, and so on. Even if teachers personally know what to do in the face of a disaster, it would still be very challenging to take charge of an entire class — especially since everything happens so fast, meaning that decisions and actions have to be made in a matter of seconds [5].

These and many other examples show that emergencies and crises not only lead to prolonged suffering of the health of the population but also to substantial loss of overall health resources [6].

It is clear from any review of the disaster risk landscape that progress can be made in saving lives, jobs and critical infrastructure by integrating science into both policy making and best practice for disaster management [7].

Unfortunately, there are limited studies regarding disaster preparedness conducted in Pangasinan, despite the fact that it is one of the leading research agenda of the Department of Education (DepED), National Unified Health Research (NUHR), National Economic and Development Authority (NEDA), Philippine National Health Research System (PNHRS) and Philippine Council in Industry and Energy Research Development (PCIERD).

This study is limited in determining and assessing the disaster risk reduction and management capability of coordinators in Schools Division Office of San Carlos City, Pangasinan in an effort to come up with a capability enhancement program.

Further, this study determined the disaster risk reduction and management of the respondents as to the prevention and mitigation, preparedness, response and rehabilitation and recovery.

A survey questionnaire was utilized to gather the needed data in this study at San Carlos City Division. The study will be conducted on the academic year 2017 – 2018.

## OBJECTIVES OF THE STUDY

This descriptive study will be conducted to determine the disaster risk reduction and management capability of coordinators in Schools Division Office of San Carlos City, Pangasinan. The results of the study shall provide pertinent information, which can serve as the eye opener to the authorities to strengthen the integration of disaster risk reduction and management in Education. This can be used as basis that constitutes a powerful force for undertaking necessary changes.

**METHODOLOGY**

This study will use the descriptive-survey method as adopted by several researchers [12]-[13] to determine, correlate, and evaluate the disaster risk reduction and management capabilities of Coordinators in Schools Division Office of San Carlos City, Pangasinan. According to Calderon and Gonzales (2004) [8] Describes and Interprets Descriptive research which concerned with conditions of relationship that exist practices that prevail; beliefs; processes that are going on; effects that are being felt, or trends that are developing. Descriptive design is defined as the study that focuses on the present condition, with the purpose of finding new truths [9].

It is descriptive since it involves gathering of information on conditions or relationships existing at a particular period. It also describes and elaborates the nature and causes of an existing phenomenon at the time of the study. It is also evaluative because it attempted to study current levels of capability in disaster management of disaster risk reduction and management of Coordinators in the Schools Division Office of San Carlos City, Pangasinan as well as their knowledge, practices and attitude. This approach is also used to revise, modify existing programs or develop more effective programs and procedures in disaster response to provide safety and security among community people.

In this study, respondents came from the elementary, secondary and senior public schools in the City Schools Division of San Carlos, in coordination with the City Schools Division Disaster Risk Reduction and Management (DRRM) Coordinator.

**Data Gathering Procedure and Instrument**

The researchers secured the permission from the Schools Division Superintendent and Division Disaster Risk Reduction and Management Officer to conduct of the study. Then the permission from the School Principal of the coordinators was secured through a letter of request to conduct the survey. The target respondents were identified prior to the administration of the instrument to facilitate a more efficient conduct of the survey.

The necessary data were gathered in a short but intensive manner. The necessary permits were secured from the authorities concerned. Documents were duplicated through photocopy upon approval of the persons concerned.

The researcher also asked the respondents for their permission to participate in the study. After which the questionnaires were administered in the level and convenience of the respondents and were explained to ensure full understanding of the items. Ethical considerations addressed in this study included informed consent and voluntary participation, anonymity, confidentiality, respect and dignity and protection of the right to withdraw at any stage of the study. Their participation in the research is voluntary. They were free to withdraw their consent and to discontinue participation at any time. By completing the survey, they implied that they consented to participate in the study.

The researcher also retrieved them after giving the respondents ample time to analyze and answer the questions presented. Each questionnaire was carefully checked to ensure that no question was left unanswered. Otherwise,

**Source of Data**  
**Table 1. Distribution of the Respondents based on Sample Size**

<b>School</b>	<b>Distribution of Respondent Coordinators</b>
	<b>N</b>
<b>Elementary</b>	<b>56</b>
<b>High School</b>	<b>19</b>
<b>Senior High School</b>	<b>19</b>
<b>Total</b>	<b>94</b>

*\*Legend: N – Total Population;*

*\*Based from the List of the City Schools Division of San Carlos A.Y. 2017 -2018*

the questionnaire was returned to the respondent for completion of the needed responses.

The data collected from the questionnaires were summarized by area. The preliminary data analysis consisted of summarized responses to each question. Data that were tallied, tabulated and collated were subjected to data analysis using appropriate statistical tools.

### Tools for Data Analysis

Descriptive statistics, including percentages for all nominal and ordinal data were used. Average Weighted Mean, and Contingency Test was used as statistical tools. All statistical calculations were based on 95% confidence levels.

The profile of school disaster risk reduction and management coordinators were entered into work tables in order to set up its frequency count and percentage.

The disaster risk reduction and management capability was determine based on the knowledge, practices and attitudes of the Disaster Risk Reduction and Management Coordinators in Schools Division Office of San Carlos City, Pangasinan. Their capability will be based on the following:

Numeric Rating	Statistical Rating	Descriptive Equivalence	Interpretation
5	4.51 – 5.00	Highly Knowledgeable (HK)	The respondent at this level has developed the fundamental knowledge and skills and core understanding and can transfer these understandings automatically and flexibly through authentic performance tasks
4	3.51 – 4.50	Knowledgeable (K)	The respondent at this level has enough knowledge and skills and core understanding and can transfer these understanding automatically and flexibly through authentic performance tasks

3	2.51 – 3.50	Moderately Knowledgeable (MK)	The respondent at this level has enough knowledge and skills and core understanding and little guidance from the supervisor and can transfer these understanding through authentic performance tasks
2	1.51 – 2.50	Slightly Knowledgeable (SL)	The respondent at this level possesses the minimum knowledge and skills and core understanding, but needs help throughout the performance of authentic tasks
1	1.00 – 1.50	Not Knowledgeable (NK)	The respondent at this level struggles with his/her understanding; prerequisite and fundamental knowledge and/or skills have not been acquired or developed adequately to aid understanding

To determine the level of disaster risk reduction and management capability of coordinators based on their knowledge will be interpreted using the following rating scale.

Moreover, the practice of the coordinators five-point rating scale and will be interpreted using the following rating scale:

Numerical Rating	Statistical Rating	Descriptive Equivalence	Interpretation
5	4.51 – 5.00	Highly Practiced (HP)	An indicator that the disaster management is always practiced
4	3.51 – 4.50	Practiced (P)	An indicator that the disaster management is often practiced
3	2.51 – 3.50	Moderately Practiced (MP)	An indicator that the disaster management is sometimes practiced
2	1.51 – 2.50	Slightly Practiced (SP)	An indicator that the disaster management is seldom practiced

1	1.00 – 1.50	Never Practiced (NP)	An indicator that the disaster management is never practiced
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significance set at 0.05 with the significance (p) value, where rejection is implied when  $p < \alpha$ .

The relationship between the disaster risk reduction management coordinators profile data and their knowledge, practice and attitudes on disaster risk reduction management among was analyzed using the Contingency Test.

Numerical Rating	Statistical Rating	Descriptive Equivalence	Interpretation
5	4.51 – 5.00	Strongly Agree (SA)	An indicator that the factor is completely acceptable to the respondents as regards to their disaster management
4	3.51 – 4.50	Agree (A)	An indicator that the factor is partially acceptable to the respondents as regards to their disaster management
3	2.51 – 3.50	Neutral (MA)	An indicator that the respondent is undecided on the factor related to disaster management
2	1.51 – 2.50	Disagree (D)	An indicator that the factor is slightly unacceptable to the respondents as regards to their disaster management
1	1.00 – 1.50	Strongly Disagree (SD)	An indicator that the factor extremely unacceptable to the respondents as regards to their disaster management

All statistical analyses were automatically calculated using a statistical software. Decisions to reject or to accept the null hypotheses were determined by comparing the level of

## RESULTS AND DISCUSSION

### PROFILE OF THE RESPONDENTS

**Age.** Most of the 94 school disaster risk reduction and management coordinator were within the 31-40 years age bracket.

**Sex.** It can be conjectured from the table that 53.45% of them are taking lead in their designated school while the remaining 46.55% (42 out of 52) belonged to the male group.

**Civil Status.** As to their civil status, almost 68.09% of them are married. It can be gleaned also from the table that 31.91% of the school disaster risk reduction management coordinators are single.

**Highest Educational Attainment.** Among the school disaster risk reduction management coordinators (SDRRMC) under study, it can be seen that majority of them are master's degree holders in terms of their educational attainment with 34% of them. Further, 21.28% of the SDRRMC have attained BS's Degree, 30.85% of them are Bachelor with Master's Unit, 10.64% of them are Master's with units in Doctoral and 3.19% are at least with Doctoral degree holder, respectively.

**Table 2: Frequency and Percentage Distribution of the School Disaster Risk and Management according to Selected Profile Variables.**

**Position.** As to their position, it can be gleaned also from the table that 21.28% of the SDRRMC are belong to Teacher I, 30.85% are Teacher II, 42.55% are in position of Teacher III, and 5.32% for Master Teacher I respectively.

**Training. A. School.** As Trainings in Disaster Risk Reduction Management Attended, majority of the respondents (62 or 65.95%) have attended not more than 2 trainings or seminars relevant to disaster risk reduction management. **B. District.** In district level there are 6 respondents (6.38%) were attended in 1 training. **C. Division.**

Majority of the respondents (63 or 67.02%) have attended not more than 2 trainings or seminars relevant to disaster risk reduction management. **D. Region.** For regional training there are 13 respondents or 13.83%. **E. National.** There are 15 respondents or 15.96% attended in division training. **F. International.** 5 respondents or 5.32% attended in international. In Region, National and International the respondents are attended in 1 training only.

**LEVEL OF DISASTER RISK REDUCTION AND MANAGEMENT CAPABILITY OF COORDINATORS**

**Table 3A Knowledge on Disaster Risk Reduction and Management**

<b>I. KNOWLEDGE</b>	<b>Weighted Mean</b>	<b>Descriptive Mean</b>
A. Prevention and Mitigation	2.59	MK
B. Preparedness	2.72	MK
C. Response	2.78	MK
D. Rehabilitation and Recovery	2.78	MK

**Knowledge on Disaster Risk Reduction and Management**

**A. Prevention and Mitigation**

Table 3A presents the knowledge of the respondents on disaster risk reduction management as to prevention and mitigation. It could be gleamed from the table that the respondents are knowledgeable on prevention and mitigation as evidenced by a overall weighted mean of 2.59.

This implies that school will be able to participate and take part in knowing about the different factors which increase their risks and exposure to disasters as well as be involved in the process of assessment, analysis and the conduct of monitoring activities.

**B. Preparedness**

Table presents the knowledge of the respondents on disaster risk reduction and management as to preparedness. It could be gleamed from the table that the respondents have

moderately knowledge on preparedness as manifested by an overall weighted mean of 2.72.

This suggests that the school may have an intact communication with the stakeholders before investing in development at the school because stakeholders knows the history of the schools, so that vulnerabilities because of lack of information about the hazards; how to prepare for them; and how to reduce the risks of the hazards affecting their lives of pupils/students

<b>Profile of the Respondent</b>	<b>Frequency</b>	<b>%</b>
<b>A. Age</b>		
31 – 40	54	57.45
<b>B. Sex</b>		
Female	52	53.45
<b>C. Civil Status</b>		
Married	64	68.09
<b>D. Highest Educational Attainment</b>		
Masters Degree	32	34.04
<b>E. Position</b>		
Teacher III	40	42.55
<b>F. Trainings</b>		
<b>a) School</b>		
1 – 2	62	65.95
<b>b) District</b>		
0	88	93.62
<b>c) Division</b>		
1 – 2	63	67.02
<b>d) Region</b>		
0	81	86.17
Total	94	100
<b>e) National</b>		
0	79	89.04

and livelihoods of the communities. It further implies that when their level of awareness and understanding are decreased, people are least prepared. A study [10] revealed teachers in Pangasinan are moderately competent regarding instructional, management, personal and social, guidance and evaluation skills. The teachers also possess a high degree of manifestation on decisiveness, resourcefulness, commitment and stress tolerance [11].

**C. Response**

Table shows the knowledge of the respondents on disaster risk reduction and management as to response. It could be seen from the table that the respondents are moderately knowledgeable on response as manifested by an overall weighted mean of 2.78.

This implies that the coordinators/teachers know that such actions will ensure reliable and accurate data are collected and shared in a timely manner in order to contribute to effective disaster response operations.

**D. Rehabilitation and Recovery**

Table shows the knowledge of the respondents on disaster risk reduction and management as to rehabilitation and recovery. It could be seen from the table that the respondents are knowledge on rehabilitation and recovery as manifested by an overall weighted mean of 2.78.

This implies that along with relief, rehabilitation and care of physical health and injuries, teacher must be available to render psychosocial and mental health services since these issues are important and needed to be addressed.

**Practices on Disaster Risk Reduction and Management as to Prevention and Mitigation among Respondents**

**Table 3B Practices on Disaster Risk Reduction and Management as to Prevention and Mitigation among Respondents**

II. PRACTICES on DISASTER RISK REDUCTION AND MANAGEMENT	Weighted Mean	Descriptive Mean
A. Prevention and Mitigation	2.78	MP
B. Preparedness	2.81	MP
C. Response	2.8	MP
D. Rehabilitation and Recovery	2.78	MP

**A. Prevention and Mitigation.** Table 3B shows the level of practice of the respondents as to prevention and mitigation. Results revealed that they moderately practice the key area of disaster risk reduction and management with an average weighted mean of 2.78.

**B. Preparedness.** Table shows the level of practice of the respondents as to preparedness. Results revealed that they moderately practice the key area of disaster risk reduction and management with an average weighted mean of 2.81. Similar from the results, Pasipamire (2014) noted that teachers practice the conduct of fire and earthquake drills. He emphasized that the need to perform drills and exercises as part of the preparedness plans helps the educator to analyze the level of preparedness within the learners and how the scheduled plans would work in the actual disaster situation.

**C. Response.** Table shows the level of practice of the respondents as to response. Results revealed they moderately practice the key area of disaster risk reduction and management with an average weighted mean of 2.8.

**D. Rehabilitation and Recovery.** Table the level of practice of the respondents as to rehabilitation and recovery. Results revealed that they moderately practice the key area of disaster risk reduction and management with an average weighted mean of 2.78. This is alarming since it is undeniable that after any disaster, school administration and Parent-Teachers Organization much helping hand in restoring school and the flow of learning will come back into normal and to avoid the students from any exposure of trauma that may affect their mental health.

**Attitudes on Disaster Risk Reduction and Management among Respondents**

Table shows the attitude of the respondents on disaster risk reduction and management. Findings revealed that they have neutral attitudes on the matter as manifested by a weighted mean of 2.99.

I. Attitudes on Disaster Risk Reduction and Management	Weighted Mean	Descriptive Equivalent
1. Disaster Risk Reduction demands teachers to become specialist.	3.28	N
Percentage		
2. Disaster Risk can be mitigated by limiting exposure to hazards, by reducing vulnerabilities, or by building capacity	2.8	N
Percentage		
3. Disaster depends very much on human aspects — on how a society is built and prepared.	2.82	N
Percentage		
4. Gender is among the most critical aspects that may put a person or a group of persons in a vulnerable position during a disaster.	2.71	N
Percentage		
5. Good DRR education creates a two-way exchange between school and community	2.73	N
Percentage		
6. The entire school community is responsible for school safety.	2.74	N
Percentage		
7. Drills offer the opportunity to identify training needs, establish new reflexes and teach through action and repetition	2.79	N
Percentage		
8. Disasters can have strong effects on the psychological and social well-being of affected persons	2.86	N
Percentage		
9. Disaster preparedness education should be taught to learners at schools	2.9	N
Percentage		
10. Disaster response and decisions depends on the type of disaster.	3.36	N
Percentage		
11. Student safety is the responsibility during disasters.	3.11	N
Percentage		
12. the school has a responsibility to teach children about natural disasters	3.32	N
Percentage		
13. Natural disasters are a government problem.	3.16	N
Percentage		
14. Natural disasters can be prevented.	3.22	N
Percentage		
15. School implements activities to keep the school safe	3.09	N
Percentage		
<b>Overall Mean</b>	<b>2.99</b>	<b>N</b>

Further, they have neutral attitudes on the following items: Disaster response and decisions depends on the type of disaster. (3.36); Disaster Risk Reduction demands teachers to become specialist. (3.28); Natural disasters can be prevented. (3.22); Natural disasters are a government problem. (3.16); Student safety is the responsibility during disasters. (3.11); School implements activities to keep the school safe (3.09)

The results implies that attitude has the potential of scaling up or downgrading the disaster risk reduction management capability of the coordinators. For an instance, a coordinator may have good knowledge and practices on disaster preparedness yet is exhibiting unfavorable attitude towards the two, the entire capability is compromised. On the other hand, even if the coordinator has poor knowledge and

practice yet owns a positive attitude towards further learning, it is highly possible that his capability will be strengthened in the long run.

## CONCLUSION & RECOMMENDATIONS

### Summary of Findings

This study determined the Disaster Risk Reduction and Management capability of coordinators in Schools Division Office of San Carlos City, Pangasinan for the School Year 2017-2018 in an effort to come up with a capability enhancement program.

Specifically, this study determined the profile of school Disaster Risk Reduction and Management coordinators in terms of age, sex, civil status, highest educational attainment, position and number of trainings in Disaster Risk Reduction and Management; the level of Disaster Risk Reduction and Management capability of coordinators in Schools Division Office of San Carlos City, Pangasinan in terms of their knowledge and practices as to prevention and mitigation, preparedness, response, and rehabilitation and recovery; and attitudes on disaster management; and the correlation between the profile of school Disaster Risk Reduction and Management coordinators and their level of Disaster Risk Reduction and Management capability of coordinators in Schools Division Office of San Carlos City, Pangasinan.

The following findings were drawn:

1. Majority of the respondents are middle-aged married female who are Masters Degree graduate and are Teacher III. Their trainings included school, district, division, regional and national conducted.
2. They are rated as knowledgeable and having a positive attitude on disaster management. Further, their disaster management is rated as “practiced”.
3. Correlational analysis revealed that knowledge, practices and attitudes of the SDRRM coordinators established a



significant correlation with their profile as to age, sex, highest educational attainment and trainings.

### **RECOMMENDATIONS**

Based on the conclusions objectively drawn from the findings of this study, the following recommendations were formulated in order to address the issues discussed herein:

1. The respondents needed a lot of organizational support to: (a) enhance their disaster management capability through provision of relevant seminars and non-formal education to empower them with the needed skills, attitudes and commitment as well as discipline; (b) consistently practice the key activities on disaster management that are evidently observed by the school heads and the students; (c) carefully plan out a comprehensive strategy as regards the nature and content of approaches to ensure the success of operation and management of whatever emergency or disaster on hand; and (d) to work with the designated personnel in the planning and implementation of whatever strategy agreed upon to enhance trust, confidence, respect and cooperation to produce expected collective output;
2. Utilize the proposed capability enhancement program to enhance their knowledge, practices and attitudes of teachers on disaster management;
3. The School DRRM Coordinator should be encouraged and motivated to pursue higher level of education in order to update and upgrade themselves specially, along their present position by undergoing more relevant trainings, and attending advance courses on obtaining higher degree.
4. To conduct the following recommendations:
  - a. Study on the synergy of individual and group action in working out a successful common agenda;

- b. Study the institutional program of Disaster Risk Reduction and Management involving various stakeholders; and
- c. Study on what possible policies, rules and regulations to be considered for implementation.

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