



Implementation of Disaster Risk Reduction Management of Public Elementary Schools

Reina Lyn Tesoro*

Calegu Integrated School, Catablan, Urdaneta City, Pangasinan 2428

Email: reinalyntesoro@gmail.com

Abstract

This study dealt with the level of implementation of disaster risk reduction and management program in public elementary schools during the S.Y. 2020-2021. This study employed a descriptive-correlational method of research with 45 respondents. Findings revealed that the level of implementation of DRRM program by the school DRRM coordinators obtained an overall weighted mean of 4.37 denoting a transmuted rating of “High”. Moreover, significant differences in the level of implementation of DRRM program by the school DRRM coordinators across profile variables sex and civil status was evident. Likewise, significant relationships between the level of implementation of DRRM program by the school DRRM coordinators and their age was evident. It can be concluded the school DRRM coordinators are performing well their roles in implementing the DRRM program in the schools. It is recommended that a well-planned development program on disaster risk reduction management program shall be crafted by the DepEd. This is essential to improve/sustain the level of implementation of DRRM program in their schools and communities.

Keywords: disaster risk reduction and management program; disaster mitigation; disaster preparedness.

1. Introduction

Disasters cause hazards. They could occur as natural catastrophes or as consequences of human action. Natural risks associated with disasters, including earthquakes, floods, and hurricanes [1]. Disasters often lead to injuries, loss of lives, and destruction of infrastructures. Schools are no exception to this, hence the realization of Department of Education (DepEd) Order No. 50, s. 2011, which strengthens the creation of the Disaster Risk Reduction and Management (DRRM) Office via schools.

* Corresponding author.

Three pillars of school safety identified by [2] include safe learning facilities, school disaster management, and risk reduction and resilience education. As directed by the aforementioned DepEd Order, these pillars are to be considered by schools through the school principals.

The Department of Education strongly advocates making schools safe for learners and school staff. Aside from being child-friendly learning environments, schools in the country are made conducive for the primary purpose of education.

This motivation is upheld in the public schools of Urdaneta City. Schools extend their facilities and serve as evacuation centers in times of unwanted phenomena. However, there are instances when schools are not suitable places for disaster response. Disaster preparedness and readiness remain crucial during these times. The schools' disaster risk reduction management has setbacks, a critical concern for school heads.

Thus, there is a need for an intensive study on implementing school-based disaster risk reduction management with elementary school teachers. Accordingly, this study will serve as an opportunity to address issues and assess the implementation of the school-based disaster risk reduction management of the schools in Urdaneta City. It will identify the extent of implementing DRRM components: disaster readiness, disaster response, and disaster risk reduction.

The researcher firmly believes that this study will benefit SDRRM coordinators, school heads, and teachers in assuring and realizing the needed disaster preparedness and readiness strategies that will strengthen partnerships and involvement of the community. This study may likewise help them emphasize relevant activities in the curriculum and programs towards a safer, more prepared, and more resilient school towards disasters and hazards.

The provision of better ways to implement school-based disaster risk reduction management in the schools serves as a gateway towards attaining resilient learning environments where learners, teachers, and stakeholders share common goals and objectives that prioritize the welfare of everybody

The purpose of this study was to determine the extent of utilization of the teaching strategies by the mathematics teachers in the Schools Division Office (SDO) Urdaneta City, Pangasinan during the S.Y. 2019-2020. More specifically, it sought to find out:

1. The profile of the DRRM Coordinators.
2. The level of implementation of the disaster risk reduction management program of the public elementary school DRRM coordinators.
3. If there are significant differences in the levels of implementation of the DRRM programs of the public elementary school DRRM coordinators across their profile variables.
4. If there are significant relationships between the levels of implementation of the DRRM program of the public elementary school DRRM coordinators and their profile variables.
5. plan of action can be proposed to improve the implementation of the DRRM program.

1.1. The Origin of DRRM

Early societies saw catastrophes as inevitable, but by the twentieth century, governments were progressively establishing the notion of disaster preparedness and relief. Since 1933, the United States of America (USA) has had a crisis department. The President's crisis and management team were the National Emergency Council (NEC), directly subservient. The NEC was reorganized in 1939 into the Office of Emergency Management (OEM), which is part of the President's Executive Office [3]. The National Research Council conducted a series of crisis management studies during the Cold War in the 1950s to handle the nuclear threat and manufactured catastrophe scenarios. After the release of White's Natural Hazards Study in 1973 and White and Haas' book, *Assessment of Natural Hazards Research*, in 1975, natural disaster research became multidisciplinary. Following the formation of the Federal Emergency Management Agency (FEMA) in 1979, the integration and coordination of crisis management in the United States grew increasingly extensive.

1.2. DRRM and Climate Change

"The gravest consequences of climate change may affect human migration," the Intergovernmental Panel on Climate Change (IPCC) predicted in 1990. Flood victims in Ghana, for instance, wait for non-food items to be delivered by IOM Ghana. IOM offered food to victims in Ghana's central, Greater Accra, and western areas in collaboration with the National Disaster Management Organization (NADMO) and local partners. They also distributed relief packs that included washing bowls, bathing pails, kitchen sets, soap, clean clothing, mosquito nets, plastic, plates and cups, and blankets. IOM has a sectoral strategy that is backed up by innovative finance methods.

Furthermore, it may be argued that migration, particularly environmental migration, is a cross-cutting issue that must be appropriately acknowledged and mainstreamed into all aspects of sustainable development plans to be effectively managed and carried out. It should also be recognized in strategic frameworks for disaster risk reduction (DRR) and climate change adaptation (CCA), such as the Hyogo Framework for Action and the United Nations Framework Convention on Climate Change (UNFCCC) development process. The IOM's initiatives to help vulnerable and mobile populations threatened by environmental hazards through DRR and CCA activities that promote sustainable development are presented in this article. DRR and CCA are successful in decreasing risk exposure and vulnerability, as well as improving migration management, particularly in times of crisis, via IOM initiatives across the world. Through an integrated DRR, CCA, and environmental migration strategy, this study proposes further improvements on DRR and CAA mechanisms at the global, regional, national, and local levels. The IOM Policy on Migration, Climate Change, and the Environment supports this document.

1.3. Global Warming

Global warming increases the average of Earth's surface temperature caused by various factors such as carbon pollution from fossil fuel combustion or deforestation, which trap heat that would otherwise escape. This is a real-life illustration of the greenhouse effect.

Earth's climate is controlled by a six-mile layer of the atmosphere that comprises most atmospheric particles. Looking at Earth from space, you'd see that the main component of the atmosphere is approximately as thick as the skin of an onion! As a result of this realization, it is reasonable to believe that humans can alter the climate. Considering how much greenhouse gas we are releasing into the atmosphere, it becomes more realistic. Too much carbon dioxide (CO₂) in the atmosphere works as a blanket, trapping heat and warming the globe, resulting in global warming. Carbon dioxide accumulates and overloads our atmosphere as we burn fossil fuels like coal, oil, and natural gas for electricity or cut down and burn forests to build pastures and agricultural estate. Global solid warming gases, such as methane and nitrous oxide, are released by waste management and farming activities, exacerbating the situation.

CO₂ has a long half-life in the atmosphere, up to 49 years, so its heat-trapping effects are amplified over time. CO₂ is the most heat-trapping gas in the atmosphere, putting humanity at the greatest danger of irreversible changes if it continues to build unchecked in the atmosphere, as it will if the world economy stays reliant on fossil fuels for energy. To put this in context, the carbon we release into the atmosphere today will decide not only our climate future but also the climatic future of future generations.

According to solid scientific evidence, an increased global average temperature of more than 3.6 degrees Fahrenheit above pre-industrial levels poses severe threats to natural systems, health, and well-being. The good news is that while we humans are to blame for global warming, we can reduce its effects.

To avoid this amount of warming, large emitters such as the United States will need to reduce heat-trapping gas emissions by mid-century dramatically. If the aim of remaining below 3.6 degrees Fahrenheit is to be met, delaying such action would require considerably steeper cutbacks in the future. Deferred interventions and action are contributory that make it more difficult and costly. Delayed action is therefore likely to make it more difficult and expensive to not just to achieve these reductions but also to deal with the climatic impacts that may arise now.

1.4. History of the Philippine DRRM

Disasters in various Philippine regions have been documented throughout the country's recorded history. Floods and storms have undoubtedly been the most common dangers. Disasters are a significant source of concern for development. It is worth emphasizing that climate change and disasters are inextricably linked. As a result, two laws relating to disasters and disaster management were enacted. The fourteenth Philippine Congress passed Republic Act 9729, the Climate Change Act of 2009, Republic Act 10121, and the Philippine Disaster Risk Reduction Management Act (DRRM Act) of 2010. According to RA 10121, the Office of Civil Defense must establish a National Disaster Risk Reduction and Management Plan (NDRRMP), authorized by the National Disaster Risk Reduction Management Council (NDRRMC). The NDRRMP covers four areas of concern: disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation and recovery, all of which are covered by the National Disaster Risk Reduction and Management Council (NDRRMC). The Office of Civil Defense is mandated by law to develop and implement the NDRRMP, as well as to guarantee that the physical framework, social, economic, and environmental plans of towns, cities, and

provinces are aligned with such goals.

Within the framework of poverty reduction and environmental preservation, the NDRRMP is guided by sound governance principles. It is about collaboration for the successful delivery of services to citizens, working together through resource complementation. As a result, harnessing and organizing civil society organizations (CSOs), the business sector, and volunteers in the government's DRRM initiatives and projects is a vital component of the strategy. To ensure that DRRM operations are integrated with budget allocation by appropriate government line agencies, efforts have been made to link the NDRRMP with national initiatives such as the Philippine Development Plan, the National Climate Change Action Plan, and the National Security Policy. Specific DRRM-related operations are carried out following timetables to assist national leaders and local chief executives in completing their mandates.

U.N. Resolution No.46/182, published during the 78th plenary conference on December 19, 1991, was the first to recognize the need for a framework on disaster risk reduction, mitigation, prevention, and preparation. The World Conference on Disaster Action (HFA) was adopted on January 18-22, 2005. On behalf of the Association of South-East Asian Nations (ASEAN), the foreign Ministers of the ASEAN nations signed the Agreement on Disaster Management and Emergency Response (AADMER), which went into effect on December 24, 2009. The Hyogo Framework of Action (HFA) provides the goals that the Hyogo Conference's participating governments should adopt. The emphasis should be placed on disaster prevention and preparedness from 2005 to 2015. The objective of HFA is to significantly minimize losses in lives and communities' and nations' social, economic, and environmental assets by 2015.

1.5. Related Studies

Natural catastrophes create a more significant number of human casualties, according to [4] not because they strike more frequently, but because there is more widespread poverty and marginalization.

In the study of [5] herders' initial response in a crisis is to call the nearby households, usually family members of herder group members, for mutual help. The next step is to recruit community leaders, village or production team leaders, or anybody else with connections to outside institutions.

It was also point out by [8] that while some governments have effectively adopted and implemented disaster risk reduction (DRR) programs, others are lagging. DRR flaws are increasingly viewed due to poor governance and a lack of political will.

Despite this, the academic literature has paid little attention to the processes of DRR governance, such as policy creation and the involvement of various stakeholders.

Moreover, forming partnerships is a crucial priority in disaster risk reduction and ecological management. Distinct essential players/stakeholders play different roles in DRR, and these roles form/intertwine into a web that influences whether the interventions succeed or fail. National catastrophe risk reduction platforms should include environmental issues and be backed by ecological institutions. Similarly, disaster managers play a

significant role in environmental activities. This arrangement should be formalized at the local government level and the grassroots or community level. Risk assessments are the foundation for risk reduction measures and preparedness planning, and they should also be the foundation for national and neighborhood development plans. Environmental change should be included as a risk element [7]

The importance of catastrophe risk reduction in overall development organization policies and plans, viewing it as a development issue rather than the duty of humanitarian departments was emphasized in the study of [8]. Policies and initiatives that have been revised must be represented in the appropriate institutional frameworks. To investigate countries, sectors, and individual projects that are at risk from natural hazards, provide detailed information on the nature and extent of the risk, and ensure that appropriate internal training and technical support is offered to support the integration of disaster risk management capacity and capabilities—for example, to support the development of disaster risk management capacity and capabilities—programming, appraisal, and evaluation tools are required. The instruments' application is essential in countries with decentralized yet dysfunctional government systems, where national commitment to disaster risk reduction may not be translated into local action.

The traditional emphasis on preparedness and response activities, as well as conservative corrective management goals, has given way to more progressive and comprehensive schemes that incorporate development themes, economic improvement, and sustainable livelihood frameworks, according to a study conducted by [9]. However, the higher permanence and continuity of humanitarian agency finance, and the perceived necessity of decreasing disaster losses, indicate that more traditional techniques guided by such ideas as the connection of relief and development continue to predominate. Due to the rise of more development-based schemes, attempts to alleviate the underlying causes of disaster risk have increased. The equation has shifted in favor of easing poverty by minimizing disaster losses.

The complete and detailed dimensioning of the ways that catastrophe risk reduction initiatives contribute to poverty reduction and the ways that poverty reduction projects contribute to risk reduction is required by funding agencies and internal organizational finance requirements. The current generic approach to establishing the link and goals must give way to a more detailed process that includes the construction of clear signs of early success [9].

A shift away from more typical conservative risk reduction tactics, preparedness, and response goals, as well as the relationships between these and poverty alleviation goals, must be promoted. This will imply a broadening of financial sources, with far more involvement of development, environmental management, and territorial organization agencies as such, to supplement the still primarily humanitarian source of local extent financing for those activities that are required for preparedness according to Lavel 2008.

It was highlighted by [9] the possibility of the Disaster Risk Reduction (DRR) Mainstreaming Framework in her research. It could increase political will and commitment to catastrophe risk reduction while serving as a policy and practice guide. It can be operational and normative (i.e., prescribing norms) but not directive. As Comfort (2003,3) states, the objective of a framework, in my opinion, should be to convey catastrophe risk information to

policymakers at all levels of authority and responsibility. It should, however, be detailed enough to serve as a guide for action at the various levels of policy development. But the framework is only the beginning: a set of indicators provides a roadmap for adapting the framework to unique physical, economic, political, social, and cultural situations. In many ways, deciding on a collection of questions and benchmarks that is adaptable, transparent, and straightforward is simple. However, as [10] point out, more effort may be needed to establish the purpose of benchmarks and assess success against them. The more challenging aspect is energizing an inclusive, participatory process with crucial stakeholder buy-in that employs a catastrophe reduction paradigm to generate tangible benefits for venerable communities. Any action that raises the profile of catastrophe reduction in any way is beneficial.

According to C.R., a social system is a group of people who work together to achieve a common goal. As a result, [11] describes it as "a complex and dynamic network of relationships among its players engaging with one another." No. 10121 recognizes the need to "adopt a disaster risk reduction and management approach that is holistic, comprehensive, integrated, and proactive in lessening the socioeconomic and environmental impacts of disasters, including climate change, and promote the involvement and participation of all sectors and all stakeholders concerned, at all levels, especially the local community," as well as "adopt a disaster risk reduction and management approach that is holistic, comprehensive, integrated, and proactive in lessening the socioeconomic and environmental impacts of disasters, including climate (physical, social, economic, environmental). There are still subsystems that are linked inside the community's social system.

Team building, on the other hand, is a practical solution to the complex process of catastrophe preparation, according to [12] "The finest outcomes are obtained when individuals work together with a sense of dedication to one another and the business," he said. He defined a team as organic, consisting of components in each member that come together to produce a cohesive whole that is more than the sum of its parts, similar to the social system model. It is also interconnected. Everyone in the group is there to help each other. It concluded that if the team succeeds, everyone succeeds; if the team fails, everyone fails [12].

He also stressed that while using teambuilding as a management strategy, it's essential to consider the natural social values that each team member possesses to reduce input efforts while maximizing output productivity. This is, of course, similarly and generally important to disaster management in terms of efficiency and, in particular, to disaster preparedness.

The Filipino, he claims, is an expert in human relationships. He knows how to set up mechanisms to make connections work for him. According to Iglesias 2007, significant parties must be involved at all levels of disaster management, from the national to the village (barangay) level, from government offices to the corporate sector and civil society. To effectively manage a crisis, the entire community must be involved. Their involvement could result in more comprehensive monitoring of dangers, as well as new data gathering stations for the city's monitoring system. The community can also support track of its weaknesses and strengths. Creating a local law to foster a disaster preparedness mindset can keep a community on its toes. The creation of a Technical Working Group (TWG) under the City Disaster Coordinating Council (CDCC) guarantees that the focus on disaster management is maintained, as well as the inclusion of essential stakeholders interested in

lowering the need for disaster response. This method allows for continuous capacity building, risk monitoring, and close collaboration with key stakeholders.

Regarding Community Risk Assessment, the researchers believe that to have a good grasp of risk assessment, a precise definition of catastrophe risk is required first. Although disaster risk [13] is sometimes confused with the so-called disaster equation, it includes aspects that can help mitigate the adverse effects of disasters. Meanwhile, the two noted that assessment entails a thorough analysis and appraisal of the concept under consideration. It is a method of gathering, evaluating, and analyzing data from various sources.

RA 10121 requires all national government agencies to institutionalize policies, procedures, coordination mechanisms, and programs on DRRM from national to local levels, with ongoing financial appropriation. Under this Act, the DepED established the DepED DRRM Core Group to discuss DRRM and Education in Emergencies (EiE) issues, recommend policy actions, and propose programs/projects to mitigate and reduce the impact of disasters on DepED teaching/non-teaching personnel/staff, learners, and properties.

The DRRM Office (DRRMO) was established by the Department of Education to institutionalize a culture of safety on all levels, organize the preservation of educational investments, and assure the continuous delivery of high-quality education services. It will act as the focal point and coordinator for all DRRM-related activities. By, Under of Presidential Decree No. 1566 of June 1978, "Strengthening Philippine Disaster Control, Capability, and Establishing the National Program on Community Disaster Preparedness," emphasizes the hardships endured by our people as a result of a hostile environment and has continuously sought survival against natural and human-made hazards. To limit the impact of threats, the Decree further highlighted the significance of directing, regulating, and organizing the entire Filipino nation's human resources, material, monetary, and spiritual resources. Each agency must establish disaster control groups/health safety committees in every place of employment and conduct periodic drills and exercises in the workplace, according to the Occupational Safety and Health Standards (as amended).

2. Materials and Methods

This study utilized descriptive survey and descriptive-correlation research designs. The respondents were the 45 DRRM Coordinators of the Division of Urdaneta City, Pangasinan.

The researcher used a questionnaire checklist instrument designed for the study and based on the constructed problems. It was used to gather data from teachers in public elementary schools. The questionnaire checklist consisted of two parts. Part I elicited the background information on the profile of the respondents, namely age, sex, civil status, highest educational attainment, numbers of years of teaching experience, and the number of relevant training attended. Part II is on the level of implementation of the disaster risk reduction management of the public elementary school DRRM coordinators and disaster preparedness, disaster management, disaster mitigation, response management, and recovery management.

Before administering the research, instrument permission was conducted from the Schools Division Superintendent and Public School District Supervisors. The questionnaire was personally distributed to the

selected respondents, and it was also individually retrieved by the researcher. The data collected were kept confidential by the researcher to ensure the highest degree of objectivity of responses.

The following statistical tools were used to answer the specific problems of the study. To determine the profile of the respondent teachers, which includes age, sex, civil status, highest educational attainment, numbers of years of teaching experience, and the number of relevant training attended, frequency counts and percentages were used. Profile variables were categorized and assigned corresponding numerical values to facilitate the computation. To answer Problem No. 2 to quantify the level of implementation of the disaster risk reduction management of the public elementary school DRRM coordinators along with disaster preparedness, disaster management, disaster mitigation, response management, and recovery management, the average weighted mean was used. The following five-point rating scale was utilized to interpret the result. The implementation of disaster risk reduction management of public elementary schools was interpreted as follows: *Very Extensive (VE: 4.50-5.00)*, *Extensive (E:3.50-4.49)*, *Moderately Extensive (ME: 2.50-3.49)*, *Slightly Extensive (SE:1.50-2.49)*, and *Not Extensive (NE: 1.50-1.49)*.

After refining and finalizing the research instrument, the researcher secured a permit to float them from the office of the Schools Division Superintendent. Eventually, the researcher administered the questionnaire to the teachers using a google form. It was the best option for collecting the needed data for this study in the current situation of the Covid-19 pandemic. It was to avoid face-to-face interaction of the researcher in gathering responses from the respondents. The researcher also coordinated with the SDO Urdaneta City DRRM Coordinator for the link of the google form. The data collection started on February 26, 2021 and ended on March 31, 2021. The data gathered were treated using various statistical techniques using the frequency counts and percentages, weighted mean, t-test, analysis of variance, and Pearson-r.

3. Results

3.1. Profile of the Respondents

This section presents the level of implementation of disaster risk reduction management program of school DRRM coordinators along disaster preparedness.

Age. In terms of age, there is 15 or 33.3 percent who belong to the age bracket 41-50 years old, 13 or 28.9 percent are in age bracket 31-40, 9 or 20 percent belong to the age bracket 21-30 years old while 8 or 17.8 are in the age bracket 51-60 which is the most senior category.

It is well known that there are more experienced DRRM coordinators in the research area in terms of age. As a result, they should be more capable, professional, and skilled in disaster mitigation management. Likewise, it can be distinguished that they are at the right age to be considered more productive and more committed to performing their roles, functions, and responsibilities in disaster risk reduction management.

Sex. The data in the table shows that males account for 53.3 percent of the population, while females account for 21 percent. Thus could be interpreted to mean that most of the designated school DRRM coordinators are males.

Civil Status. In line with civil status, the school DRRM coordinators are mostly married at 33 or 73.3 percent. The status of being married, having a family, and having a stable married life provides a feeling of self-fulfillment and security at some point. As a result, marital status can be regarded a factor in achieving good results. Furthermore, the statistics in the table revealed that 12 percent of the population, or 26.7 percent, is single.

Table 1 presents the profile of the respondents.

Table 1: Profile of the Respondents

| Profile Variables | Variable Category | Frequency | Percentage |
|-------------------------------------|-----------------------|-----------|------------|
| Age | 21-30 | 9 | 20.0 |
| | 31-40 | 13 | 28.9 |
| | 41-50 | 15 | 33.3 |
| | 51-60 | 8 | 17.8 |
| Sex | Male | 24 | 53.3 |
| | Female | 21 | 46.7 |
| Civil Status | Single | 12 | 26.7 |
| | Married | 33 | 73.3 |
| Position | Teacher I | 8 | 17.8 |
| | Teacher II | 7 | 15.6 |
| | Teacher III | 30 | 66.7 |
| Highest Educational Attainment | BEd/BSEd | 17 | 37.8 |
| | With MA Units | 19 | 42.2 |
| | MA Degree Holder | 5 | 11.1 |
| | PhD/EdD Degree holder | 4 | 8.9 |
| Number of Years as DRRM Coordinator | 5-below | 29 | 64.4 |
| | 6-10 | 12 | 26.7 |
| | 11-15 | 2 | 4.4 |
| | 16-20 | 2 | 4.4 |
| District | 3-below | 40 | 88.9 |
| | 4-6 | 5 | 11.1 |
| Division | 3-below | 17 | 37.8 |
| | 4-6 | 19 | 42.2 |
| Regional | 7-above | 9 | 20.0 |
| | 3-below | 38 | 84.4 |
| National | 4-6 | 7 | 15.6 |
| | 3-below | 44 | 97.8 |
| International | 4-6 | 1 | 2.2 |
| | 3-below | 44 | 97.8 |
| Relevant Trainings Attended | 4-6 | 1 | 2.2 |
| | 3-below | 44 | 97.8 |

Position. The chart shows that the majority of school DRRM coordinators are Teacher III (30 or 66.7 percent), Teacher II (7 or 15.8%), and Teacher I (8 or 17.8%), implying that most respondents have attained the maximum required for Teacher III jobs.

Highest Educational Attainment. As shown in the table, the majority of school DRRM coordinators have

achieved some units in MA, with 19 (42.2%) having received a Master of Arts degree, 5 (11.1%) having a Master of Science degree, 4 (8.9%) having doctoral degrees, and 17 (37.8%) having a bachelor degree. Given that a large majority of the respondents have degrees beyond a bachelor's degree, the educational profile of the respondents could be described as excellent. Truly, school DRRM coordinators need to learn more and grow professionally to expand their knowledge in performing the tasks assigned to them.

Number of Years as DRRM Coordinator. It is reflected in the table that most of the respondents are school DRRM coordinators for five years and below that is 29 or 64.4 percent, 12 or 26.7 percent for 6-10 years, 2 or 4.4 for both 11-15, and 16-20 years. It could be regarded that the respondents are still young when it comes to their experience as DRRM coordinators.

Relevant Trainings Attended. The table shows the respondents' appropriate training for professional growth and advancement. It is surprising to note that DRRM coordinators have attended three appropriate national and international levels that are 14 or 97.8 percent. In comparison, 38 or 84.4 percent have attended three good activities at the federal level, while most of them have attended 4-6 activity at the division level.

It could be said that most of them enjoy the opportunity of attending seminars at one level or the other but not in all training. They must attend activities, conferences, and meetings to keep them abreast with trends and issues in education and other programs that could meet the demands of time. Attending workshops can enhance proficiency, particularly in the employment of practical and new strategies in performing their functions. It is also an opportunity to widen horizons for professionals to expand their knowledge due to their interactions with experts.

3.2. The level of implementation of disaster risk reduction management program of school DRRM coordinators along disaster preparedness

3.3. Level of implementation of the DRRM Program by the school DRRM coordinators

Table 2 presents the overall level of implementation of the DRRM Program by the school DRRM coordinators. According to the data, disaster preparedness, disaster management, disaster mitigation, response management, and recovery management have the highest mean of 4.41, indicating a transmuted rating of "high." In contrast, disaster preparedness has the lowest standard of 4.24, indicating a transmuted rating of "high." The finding manifest that the school DRRM coordinators are more focused on managing disasters hat performing their roles in other DRRM indicators.

Table 2: Level of implementation of disaster risk reduction management program of school DRRM coordinators

| Indicators | WM | TR |
|-----------------------------|------|----|
| 1. Disaster Preparedness | 4.24 | H |
| 2. Disaster Management | 4.41 | H |
| 3. Disaster Mitigation | 4.40 | H |
| 4. Response Management | 4.40 | H |
| 5. Recovery Management | 4.40 | H |
| Grand Overall Weighted Mean | 4.37 | H |

Legend:

| Mean Score Range | Descriptive Equivalent | Transmuted Rating |
|------------------|------------------------|----------------------|
| 4.50-5.00 | Always | Very High (H) |
| 3.50-4.49 | Often | High (H) |
| 2.50-3.49 | Sometimes | Moderately High (MH) |
| 1.50-2.49 | Seldom | Slightly High (SH) |
| 1.00-1.49 | Never | Not High (NH) |

It also appears that the level of implementation of the DRRM program by the school DRRM coordinators obtained a grand overall weighted mean of 4.37, denoting a transmuted rating of "High." This only shows that the respondents are responsive in implementing the DRRM program in the school. In this case, it can be inferred that school DRRM coordinators have a deep concern in protecting life and properties in times of disaster.

3.4. Differences on the Level of Implementation of Disaster Risk Reduction Management Program by the School DRRM Coordinators across their Profile Variables

Table 3 shows the significant differences between the levels of implementation of disaster risk reduction management programs of schools across the respondents' profile variables.

Based on the summary table for ANOVA, the mean differences of the school DRRM coordinators, disaster risks reduction management level is indicated. Generally, the table shows that the data do not indicate differences among the school DRRM coordinators' levels of disaster risk reduction management. As a result, at a .05 level of significance, the null hypothesis that there are no significant differences in the level of implementation of

disaster risk reduction management programs across profile factors is accepted.

Table 3: Summary of ANOVA results for the mean differences on the level of implementation of the disaster risk reduction management program across profile variables

| Profile Variables | Sources of Variation | Sum of Squares | Df | Mean Square | F | Sig. |
|-------------------------------------|----------------------|----------------|----|-------------|-------|------|
| Age | Between Groups | 3.604 | 3 | 1.201 | 4.994 | .005 |
| | Within Groups | 9.863 | 41 | .241 | | |
| | Total | 13.467 | 44 | | | |
| Position | Between Groups | .240 | 2 | .120 | .381 | .686 |
| | Within Groups | 13.228 | 42 | .315 | | |
| | Total | 13.467 | 44 | | | |
| Highest Educational Attainment | Between Groups | .588 | 3 | .196 | .624 | .604 |
| | Within Groups | 12.879 | 41 | .314 | | |
| | Total | 13.467 | 44 | | | |
| Number of Years as DRRM Coordinator | Between Groups | 1.378 | 3 | .459 | 1.558 | .214 |
| | Within Groups | 12.089 | 41 | .295 | | |
| | Total | 13.467 | 44 | | | |
| Relevant Trainings Attended | Between Groups | .623 | 2 | .311 | 1.018 | .370 |
| | Within Groups | 12.845 | 42 | .306 | | |
| | Total | 13.467 | 44 | | | |

When grouped by age, position, highest educational attainment, years as a school DRRM coordinator, and relevant training attended in the different levels. The ANOVA results would imply that the level of implementation of disaster risk reduction management in disaster preparedness, disaster management, disaster mitigation, response management, and recovery management does not differ or is comparable. In other words, the school DRRM coordinators perform their management functions in disaster risk reduction management at different levels.

3.5. The t-test on the significant difference in the level of implementation of the DRRM Program by the school DRRM coordinators across profile variables sex and civil status

Table 4 shows the t-test on the significant difference in the level of implementation of the DRRM Program by the school DRRM coordinators across profile variables sex and civil status.

It is shown in the table the result of the t-test for the significant difference in the level of implementation of the DRRM program by the school DRRM coordinators across profile variables sex and civil status. It can be seen that the overall significance value indicators of .052 and .339 respectively are higher than the significant value of .05 level of significance.

This means that the substantial difference supports the null hypothesis that no significant variation exists in DRRM program execution by school DRRM coordinators across the factors above. It can be said that the profile variables sex and civil status are not related to the level of implementation of the DRRM program by school coordinators. In other words, they are not comparable. It means that regardless of the respondents' sex and civil status, they can implement the DRRM program of the school.

Table 4: T-test results on the significant differences on the level of implementation of disaster risk reduction management program across sex and civil status

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|--------------|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|--------|
| | | F | Sig. | T | Df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper | |
| Sex | Equal variances assumed | 3.660 | .062 | -.872 | 43 | .388 | -.14452 | .16577 | -.4788 | .18977 |
| | Equal variances not assumed | | | -.906 | 35.908 | .371 | -.14452 | .15955 | -.4681 | .17908 |
| Civil Status | Equal variances assumed | .935 | .339 | -.477 | 43 | .636 | -.08970 | .18816 | -.4691 | .28976 |
| | Equal variances not assumed | | | -.453 | 17.892 | .656 | -.08970 | .19790 | -.5056 | .32626 |

3.6. Relationships between the Level of Implementation of Disaster Risk Reduction Management Program of School DRRM Coordinators and Profile Variables

This study further determined the relationships between the level of implementation of disaster risks reduction management programs of school DRRM coordinators. This was done using the Pearson (r) Product of Coefficient of Correlation. In doing so, all profiles of the school DRRM coordinators were correlated to their level of implementation of the disaster risks reduction management program.

Table 5 shows the data for such correlation.

Table 5: Relationships between the level of implementation of disaster risk reduction management program of school DRRM coordinators and profile variables

| Profile Variables | Pearson Correlation | Sig. (2-tailed) |
|-------------------------------------|---------------------|-----------------|
| Age | .366* | .024 |
| Sex | .132 | .388 |
| Civil Status | .073 | .636 |
| Position | -.133 | .383 |
| Highest Educational Attainment | -.142 | .351 |
| Number of Years as DRRM Coordinator | .223 | .141 |
| RT_District | .036 | .815 |
| RT_Division | .068 | .657 |
| RT_Regional | .062 | .686 |
| RT_National | -.020 | .896 |
| RT_International | -.064 | .676 |

It can be observed from the table that no significant relationships among the variables exist except in profile variable age. This means that the school DRRM coordinators' profile variables, sex, civil status, teaching position, highest educational attainment, number of years as a school DRRM coordinator, and number of relevant training do not have any relationships on their level of implementation of disaster risks reduction management program. Another way of putting it is that the level of disaster risk reduction management practices of school DRRM coordinators is not dependent on their profile variables except for age. Therefore, the null hypothesis that there are no significant relationships between the school DRRM coordinator level of implementation of disaster risks reduction management program and their profile variables is accepted at a .05 level of significance. So that given the data in the above table, it can be said with confidence that regardless of the school DRRM coordinator's qualities, they can be expected to manage the disaster risk reduction to a certain extent or level.

On the other hand, there is a significant relationship between the school DRRM coordinator's level of

implementation of the disaster risks reduction management program and the profile variable age. Therefore, the null hypothesis that there is no significant relationship between the level of performance of disaster risks reduction management programs of school DRRM coordinators is rejected at a .05 level of significance. Hence, it can be said that profile age is significantly related to the DRRM practices of school coordinators. This could be interpreted to mean that age is a contributory factor in the performance of school DRRM coordinators.

3.7. Proposed Plan of Action to Improve the Implementation of Disaster Risk Reduction and Management Program

The systematic process of using administrative directives, organizations, and operational skills and capacities to execute strategies, policies, and better-coping abilities to decrease the negative impacts of hazards and their potential for disaster is known as disaster risk management. Through activities and methods for prevention, mitigation, and readiness, disaster risk management tries to avoid, mitigate, or transfer the negative consequences of hazards [26].

The interaction between disaster risk reduction and disaster risk management is clear. Disaster risk reduction concerns activities more focused on a strategic level of management, whereas disaster risk management is the tactical and operational disaster risk reduction.

The researcher proposes the following plan of action to improve the disaster risk reduction and management programs in public elementary schools in the Urdaneta City Division.

Disaster Risk Reduction and Management Action Plan

Table 6

| Target Activity | Objective | Target Participants | Time Frame | Expected Output |
|--|---|--|----------------------|---|
| Organized School Disaster Action Team (SDAT) | To organize, elect, and appoint School Disaster Action Team Officers and Members (SDAT) | Principal School DRRM Coordinator Teachers PTA Officials | August-October, 2021 | Organization of School Disaster Action Team School Disaster |

| | | | | |
|--|--|---|--------------------------------|--|
| <p>School Disaster Action Team (SDAT) Orientation</p> | <p>To familiarize faculty members with the SDAT's setup, tasks, and obligations, as well as its operations during an emergency.</p> | <p>Principal SDAT Members, School DRRM Coordinator Teachers</p> | <p>August-October, 2021</p> | <p>The School Disaster Action Team was oriented, and the other members were aware of their roles and responsibilities.</p> |
| <p>Earthquake/Fire Drill Orientation/Dissemination of Activities</p> | <p>To educate and prepare all students and parents for disasters and natural calamities, such as earthquakes, fires, volcanic eruptions, and typhoons.</p> <p>To be ready and vigilant in the event of an emergency, whether it be a natural or man-made disaster.</p> | <p>Principal SDAT Members School DRRM Coordinator Teachers BOD and PTA Community Leaders Pupils</p> | <p>September-October, 2021</p> | <p>Internal stakeholders were orientated, informed, and prepared in the event of a disaster, whether natural or man-made. Hazard and Risk Assessment in a Student-Led School</p> |
| <p>Student-led School Watching Hazard and Risk Assessment</p> | <p>To detect and assess the potential for hazardous spots, regions, and objects in the school to jeopardize the</p> | <p>Principal School DRRM Coordinator SDAT Members Selected pupils of Grades 4, 5 & 6</p> | <p>Year Round</p> | <p>Conducted Quarterly Earthquake and Fire Drills.</p> |

| | | | | |
|---|---|---|------------|--|
| | safety of students. | | | |
| Quarterly Earthquake and Fire Drills | To assist in the planning and execution of earthquake and fire drills. In the event of a crisis or calamity, ensure the safe evacuation of students and teachers. | Principal DRRM Coordinator Teachers SDAT Members Pupils | Year Round | Report on emergency drills and other exercises that have been conducted. |
| Specialized Skills Training “Basic First Aid” and “Basic Life Support (BLS/CPR) | To improve the school's response capabilities by transferring knowledge, attitudes, and skills in first aid and basic life support (BLS/CPR). | Principal DRRM Coordinator Teachers SDAT Members Pupils | Year-Round | Specialized trainings for the entire division and/or cluster. |

4. Conclusion

The school DRRM coordinators are performing well in implementing the DRRM programs in the schools. They were educationally equipped with knowledge on the DRRM programs, as reflected in the training that they attended. Moreover, it is implied that regardless of the profile variables they can implement the DRRM Program in the school. Likewise, the profile variables of the school DRRM coordinator do not considerably affect or change their level of implementation of the program except when it comes to profile variable age.

5. Recommendation

The researcher recommends the following on the basis of the findings and conclusions of this study.

1. The Department of Education (DepEd) will create a well-planned development program on catastrophe risk reduction management. This is found necessary to improve/maintain the level of DRRM program implementation in their schools and communities.
2. In terms of the "high" level of DRRM program implementation by school DRRM coordinators should be significantly reinforced.
3. In terms of trainings, more intensive DRRM training programs should be established and implemented to improve the skills and competency of school DRRM coordinators in managing DRRM programs to ensure their long-term success.
4. Finally, other research should be conducted to look into other elements of the DRRM program's implementation in the school, utilizing other variables and a broader scope.

Acknowledgements

The researcher would like to convey her sincerest and profound gratitude and due recognition to the Schools Division Office Urdaneta City as a place to carry out this study. To the mentors who gave their valuable contribution for the completion of this humble endeavour. The researcher's family for their untiring assistance, and inspiration for the realization of this study; and above all, the Almighty God, the omniscient and fountain of pure wisdom who never ceases in loving us and for the continued guidance, protection and strength to cope with this research.

References

- [1] DepEd Disaster Risk Reduction Resource Manual (2008)

<https://psba.edu/wp-content/uploads/2018/07/Disaster-Risk-Reduction-Resource-Manual-2008>

- [2] ASEAN Safe Schools Initiative (ASSI). Resilience Library Southeast Asia Resources (2015)

<https://www.rcrc-resilience-southeastasia.org/disaster-risk-reduction/school-safety/asean-safe-schools-initiative-assi/>

- [3] Development of Social Work Education in China: Background, Current Status, and Prospects (2004a)

https://www.researchgate.net/publication/261616245_Development_of_Social_Work_Education_in_China_Background_Current_Status_and_Prospects

- [4] Sanchez del Valle 2000, Sanchez del Valle, Rosa "Gestation Local de Riesgo en America Central; GTZ/FEMID, Guatemala City

- [5] Yongang et al,1999.Tribology International Volume 32, Issue 3, March 1999, Pages 161-166
- [6] Jones et al. (2011). Governance Struggles and Policy Processes in Disaster Risk Reduction: A case Study for Nepal.
- [7] Mathias K. Magunda. (2010). Study on Disaster Risk reduction Management and Environment for Karamoja Subregion.
- [8] Benson et al. (2007) Disaster Risk Reduction: Guidance Notes for Development Organizations
- [9] Effects of elevated CO₂, nitrogen deposition, and decreased species diversity on foliar fungal plant disease
- [10] An Operational Framework For Mainstreaming Disaster Risk Reduction (25/09/03)
- [11] R. A. Martires (2011) Preparedness of Students Of Alabel National High School on Earthquake
- [12] Tomas D. Andres 1992. Managing schools by Filipino values
- [13] Lomerio-Ondiz & Redito (2009) Chapter Ii Review Of Literature And Related Studies