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The Nexus Between School and Community: Perceptions of a Resilient Disaster Risk Reduction Program

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ABSTRACT

Background

The need to reduce catastrophic risk presents both opportunities and challenges for the education sector, particularly public institutions. In response to this imperative, Biliran Province State University, through its School of Graduate Studies, initiated the "KONEKSYON TALI SAESKWELAHAN UG KOMUNIDAD (Nexus between School and Community): BUILDING A RESILIENT EDUCATION THROUGH DISASTER RISK REDUCTION PROGRAM". This program was developed in collaboration with the Department of Education, Biliran Division, to enhance community preparedness and resilience before, during, and after disasters.

Materials and Methods

The program featured numerous initiatives aimed at educating and preparing community members, especially school frontliners, across vulnerable schools in the province. It received 150 responses from two of the province's most vulnerable schools and incorporated Disaster Risk Reduction (DRR) into the curriculum. The implementation was structured into four phases: (i) disaster prevention and mitigation; (ii) disaster preparedness; (iii) disaster response; and (iv) disaster rehabilitation and recovery.

Results

By integrating DRR into the curriculum, the program empowered participants to apply their knowledge, skills, and resources effectively during natural and man-made disasters. This approach contributed to the development of a disaster-resilient education community.

Conclusion

The ultimate goal of the program is to develop a comprehensive School Improvement Plan (SIM) that integrates DRR into teaching content and pedagogy, addressing critical areas within the school community. This initiative represents a proactive step towards fostering a resilient educational environment that can withstand and recover from various hazards.

Keywords

Disaster Risk Reduction, Resilient education, School-community nexus, Disaster preparedness, School Improvement Plan, Catastrophic risk management, Vulnerable schools

1. Introduction

A disaster is a sudden adverse or unfortunate extreme event that causes great damage to human beings as well as

plants and animals. Disaster occurs rapidly, instantaneously, and indiscriminately. These extreme events either natural or man-induced exceed the tolerable magnitude within or beyond certain time limits, make adjustment difficult, result in catastrophic losses of property and income, and life paralyzed. These events which occur aggravate natural environmental processes to cause disasters to human society such as sudden tectonic movements leading to earthquake and volcanic eruptions, continued dry conditions leading to prolonged drought, floods, atmospheric disturbances, the collision of celestial bodies, etc. (Joshi, 2008).

The vulnerability of communities, including schools, to climate change and other disasters is high. Reducing disaster risk and increasing the resilience of people and systems is a vital concern from a national development perspective. The safety of schools is critical, and DRR works to reduce the vulnerability to and impact of catastrophes on schools, as they are one of the preferred habitats for refugees. It prepares both teachers and students for potential disasters, thereby reducing the impact of said disaster. If the students can then transfer the knowledge to members of their families, it becomes general knowledge, and the community can prepare as well. When "Urduja" slammed the province and many places in the Eastern Visayas in December of 2017, it caused damage to a total of twelve schools, including two completely wiped out.

The Biliran division of the Department of Education (DepEd) anticipated that the amount of money necessary to repair and replace school structures will be greater than P39 million. In addition to this, it suggested moving seven schools from their current locations because those spots are no longer considered safe. According to Briones (2018), the Department of Education is willing to construct new schools so long as the local government unit agrees to offer secure locations for the schools.

The growing quantity, severity, and unpredictability of natural disasters around the world have strengthened the call and consensus for disaster risk mitigation to be integrated into the existing school curricula of the Philippine basic education program. Given that catastrophe risk reduction is a growing concern, it creates both opportunities and problems in the education sector, especially public schools. With the aim of mitigating potential disasters and risks in the communities, the BIPSU-School of Graduate Studies has launched and implemented the School and Community-based Disaster Risk Reduction Program, in close coordination and collaboration with the Department of Education-Biliran Division.

The program features various initiatives and activities intended not only to educate and prepare community residents including school frontliners before, during, and after the occurrence of any disaster but also to provide them any assistance to alleviate their difficulties and challenges. This program allowed the participants to utilize their knowledge, skills, and resources to address preparedness when natural and man-made- induced phenomena happen, through integrating DRR in the curriculum, thus achieving a disaster- resilient education community.

Unexpected occurrences like disasters might overwhelm the capacity of the affected population to manage their effects. Many individuals are frequently exposed to natural disasters; the majority of calamities cannot be avoided. In order to judge how well-prepared a population is for potential disasters; one must first consider their own level of preparedness. This is a clear indicator that the topic of this research, which is catastrophe preparedness, has to be prioritized and treated with extreme seriousness. Insights as to how the people perceive the importance of the DRR program especially from the implementers' perspectives offer baseline data in improving the implementation of DRR in public schools in Biliran Province as well as crafting a school based DRRM Plan to strengthen partnership and coordination among all key players and stakeholders. Premised in this pursuit, the study was therefore undertaken.

2. Objectives

Disaster Risk Reduction (DRR) programs play a critical role in reducing the vulnerability of communities to natural and human-made hazards. Effective implementation of these programs requires a comprehensive understanding of various factors that contribute to their success and sustainability. This study aims to explore key elements that shape the perception, effectiveness, and challenges of DRR initiatives. To attain the objectives

1) What are the factors contributing to the positive perception of the DRR program among participants, and how do these perceptions vary across different demographic groups?

2) How does the collaboration between secondary schools and local government units influence the effectiveness and sustainability of DRR initiatives?

3) What are the specific knowledge and skill gaps identified among implementers of the DRR program, and how can targeted training and capacity-building programs address these gaps?

4) What are the main challenges faced by various agencies and stakeholders in coordinating and supporting DRR efforts at the community level?
5) How do community attitudes and paradigms towards disaster risk affect their engagement with DRR programs, and what strategies can be employed to improve community participation and compliance?

3. Scope and Methodology

Study Design

A case study approach was used in the study. The researchers visited Naval National High School and Lucsoon National High School, two schools that had received DRR training and had begun operating as disaster-prepared schools, in order to investigate the implementation of the school-based DRR program. Due to the circumstances and locations of the schools, the researchers predicted a chance of varied cases being discovered in the field. In qualitative justification study, it is critical to provide information validity by bringing together data from several sources (Patton, 1999; and Carter, 2014).
For the purpose of improving the accuracy and reliability of the data, this study used a variety of various data sources. One of the main triangulation tactics is to use a variety of sources, viewpoints, places, and ideas (Cho & Lee, 2014).

Sampling and Participants

Participants were selected using purposive sampling, which refers to a group of non-probability sampling technique in which units are selected because they have characteristics that the researchers need in a sample (Nikolopoulou, 2022). It is extremely subjective, and it is decided by the qualitative researchers who developed the qualifying criteria that each participant must satisfy in order to be selected for participation in the study. Ten participants were chosen through inclusion criteria: 1) They are teachers coming from the identified schools, namely: Naval National High School and Lucsoon National High School; 2) They received or participated the training on DRR program.

Data Collection Procedure and Analysis

This study employed an in-depth interview method using purposeful samples to examine the attitudes, actions, and perceptions of local stakeholders in the school-based DRR initiatives. The two secondary schools' local stakeholders were the focus of the study's purposeful samples. Since it depends on the participants' capacity to communicate what they actually feel and experience, data about human experience has its limitations. As a representative of local authorities, this study concentrated on interviewing participants from the disaster management agency and the department of education at the local level. At schools in danger from natural disasters, the interviews also included the principals and teachers as representatives of the school community.
This study used the framework approach Braun and Clarke suggested in 2006 for assessing the data material. Following that, this study used thematic analysis to support coding categories by drawing on the ideas from the focal questions.

Instrument

An interview guide was utilized in gathering data. This tool is simply a list of all the topics the researchers planned to cover in the interviews with questions that need to be answered under the topics (Jamshed, 2014). Further, the interview guide instrument underwent validity and reliability check based on the Acceptable CVI values recommended by (Yusoff, 2019).

4. Results and Discussion

Perception Towards the Implementation of Disaster Risk Reduction Program

One of the major objectives addressed in the study is the perception of the participants on the implementation of the DRR program. It can be gleaned from the participants' responses that their views about the DRR implementation were diverse, and these are captured in the following themes.

Theme 1: Positive Impact. This theme relates to how the DRR program is perceived by the participants as to its direct effect or impact on their lives. Many of them pointed out how the program had contributed positively to

their welfare and well-being in general. These are part of their narrations.
*"It is a good program".*P1
*"Community safety and security will be assure".*P2
*"People are given assistance to help cope with the difficulties if hit by any disaster."*P4
The school-based and community DRR program goes a long way in reaching out to the people especially those who are marginalized and underserved and becomes an ideal support for those struggling with meager resources in life. From the given findings, it can be implied that even though the DRR program of the identified secondary schools is still not that well-established it is positively perceived by the community as an important avenue in mitigating the difficulties and devastation experienced by the people when they experience any disaster.
This confirms with the finding that local communities are at the forefront of both the immediate impact of disasters and the initial emergency response, which is crucial in saving lives (UN/ISDR 2007a:iii). The community-based method also offers various advantages that help communities be resilient and delivers the most reliable primary data for determining a community's disaster risk profile.

Theme 2: Strengthened School and Community Relationship. In the context of the study, the theme describes the role portrayed by the school and the locality as an important element in overseeing, managing, and stabilizing the DRR program. Several participants eagerly mentioned the need between the secondary schools through the school administrators and teachers and the local leaders of the barangay council to exert effort and collaborate if only they want the program to be improved as well as sustained. The participants responded with the following statements.
"Communication is very important because barangay officials like the Brgy. Capt. will come to us to link and work together." P2
"Increases the community's capacity and degree of awareness of the threats and effects of all disasters" P3
"Strengthens partnership and coordination among all key players and stakeholders" P4
It appears that the community is less involved in the developing, planning, and implementation of DRR activities in the even though the participants in the given conversation mentioned that volunteering initiatives and awareness campaigns are included in the DRR program. This is due to the local officials' admission that they were unaware if the public had been involved in the implementation of DRR activities through the schools and that they were not interested in taking part in DRR activities because they yearned to see tangible benefits like infrastructure. This difficulty is caused by the absence of service delivery that was previously highlighted.
The findings made it clear that much more work needs to be done to involve the public in the creation, organization, and execution of DRR initiatives. Although this might be challenging given that "recovery literature does not often make a distinction between public participation in recovery activities and public participation in decision-making for recovery" (Vallance 2015:1298).

Theme 3: Low Capability of the DRR Implementers. Depicted in this theme are the revelations of the participants about their low or little capability in assuming their roles and functions in performing the tasks assigned to them in implementing the DRR program. Majority of the participants had admitted their need for capability building program to increase their knowledge and ability and be able to do their part and contribute to the over-all management and implementation.
"We still lack knowledge and skills in performing our respective functions and tasks." P1
"I would request that we be trained in many areas of the DRR program and there is monitoring by the DRR Top Management." P2
"There is a need for the teachers to learn about the plans, policies, and procedures about the program." P4
"I think if we are sent to trainings and capability building activities related to DRR program the more we can do our part and assist in implementing as well as managing the activities and other tasks." P5
People can develop solutions to reduce the dangers of a disaster with the help of better knowledge and education. Planning is one strategy for reducing risk. Disaster awareness draws the idea of beginning with a goal that will bring about change or profit from educational preparation. Therefore, the educational planner creates a road map that will aid in bringing about the desired transformation. Similar to disaster prevention, disaster awareness entails choosing initiatives to pursue within the realm of catastrophe risk reduction. Schools that are adequately prepared for disasters are very good at managing the risks. All members of the school community must actively participate

in discussions regarding disaster preparedness and the development of strategies for safeguarding the buildings (Kay, 2013).

Challenges Met in the Implementation of Disaster Risk Reduction Program

The challenges are one area of the study that the researchers wanted to collect baseline information so that implementation of the DRR program will be strengthened. The practice of disaster risk reduction (DRR) aims to lessen the potential effects of both natural and man-made dangers on people, property, and the environment.

In addition to putting plans in place to prevent, lessen, be ready for, respond to, and recover from disasters, it entails recognizing, assessing, and managing the risks associated with them. In particular, in light of climate change and rising disaster frequency and intensity, DRR is crucial for boosting communities' resilience and ecosystems' sustainability. Implementing DRR strategies, however, is not always simple or easy. The effectiveness or viability of DRR treatments may be hampered by a variety of problems or obstacles.

The participants relayed some of the challenges they had met in the program implementation which are presented in the following themes.

Theme 1: Various Agencies Readiness and Political Commitment. This theme emerged as a challenge based on the participants claimed especially in the grassroot level. They believed that the implementation of the DRR program will not be smooth, successful, and sustainable if it is left to only one agency like the academia or school. Further, they point out the need of the government to extend its arm to the various agencies like the school in order to encourage other agencies to cooperate and support the program.

"What portion of the government budget is allocated to DRR initiatives needs to be thoroughly examined." P1

"We also need to consider the number of donors who contribute to DRR initiatives and the percentage of their overall budget that goes toward DRR interventions." P2

"Even less can be said about the nation's capacity to recover as a whole." P3

It has been found that the poorest countries are also the ones that are most at risk from natural disasters. Even less of a chance exists for the nation as a whole to recover. Even if the government made a pledge, there would be insufficient funding to carry it out. We frequently hear from the government on whether they should spend their meager resources on meeting the basic needs of their citizens or investing in disaster-related issues. This data may imply that other than the government and other willing counterpart-agencies supporting the DDR program, the international community can also assist the nation in lowering the community's vulnerability.

Theme 2: Lack of Coordination and Cooperation Among DRR Actors. This theme relates to another challenge that affected the DRR program implementation as pointed out by the participants. Participants agreed that the lack of coordination between different DRR entities exists regardless of the nation's economic situation. The implementers saw that some geographic areas had a higher number of agencies working on DRR than other areas, despite the fact that the other area is more susceptible and needed greater attention.

"There are the areas or places which are preferred for the donor visit or visit by other high profile people or sponsors/donors rather than those that are really most in need or highly qualified such as the schools in the local places." P1

"The budget and other resources which should have gone otherwise to the more deserving areas is not being utilized properly." P2

"One strategy for combating this is effective agency coordination, which is led by the government and backed by other agencies and kindhearted people." P3

Based on the results, it can be implied that together, a thorough vulnerability analysis must be conducted, and based on the requirements, the geographic area and the interventions must be planned. It has been noted that the government has moved in this direction in a proactive manner.

Theme 3: People's Attitudes and Paradigms Towards Disaster. This theme emphasizes the participants' belief that many communities in the Philippines remain stubborn and complacent in their responses to the demand for DRR. People are increasingly realizing the value of DRR after suffering severe losses following a major disaster occurrence, according to the current trend. They elaborated this theme based on the following statements.

"I have a friend and he would tell me that the price of "tuition fee" only to learn a lesson on DRR is quite expensive, costing thousands of pesos in lost infrastructure and agricultural crops in addition to hundreds of individuals affected." P1

"We live far from the coastal area or mountain so if there is any disaster like typhoon our family do not follow any order from the local or municipal government to move to a more secure area or place because we thought we are far from any harm." P2

"I observe that many residents will comply government warning and order and some who have availed of the housing program will move to their new house only for a couple of months and later on they return to their original dwelling which is disaster-prone and risky." P3

"Maybe the lack of education of the people is one thing that makes them complacent about what possible effect or impact any disaster can have to them." P4

The findings show that if an individual can improve his/her knowledge and awareness of the potential effects and impacts of a disaster to human life, then he/she is willing to get involved in managing disaster and cooperate with the government and allied agencies tasked in the DRR program.

Data imply that the identified challenges are not far-reaching and without solutions. Working with new and less engaged stakeholders in DRR work is one approach to go about it. The Philippines is doing a fantastic job of enlisting the corporate sector to help get funding for local DRR initiatives. The first step in directing some CSR resources to DRR was corporate social responsibility. The education sector has also been involved in DRR by many NGOs throughout the nation.

5. Conclusion

The DRR program is a series of seminar-workshop activities (Disaster Prevention and Mitigation; Disaster Preparedness; Disaster Response; and Disaster Rehabilitation and Recovery) that capacitate public secondary school heads and teachers to the National Disaster Risk and Management Plan of the Philippine Government.

This program also prioritizes and targets ways to help communities effectively use local resources and capacities to better prepare for disasters and to adopt measures to reduce their vulnerability. Various resources individuals were utilized in the execution of the program. These individuals involved the Department of Science and Technology (DOST), the Department of Interior and Local Government (DILG), the Department of Social Welfare and Development Authority (NEDA), and the faculty and Staff of the Biliran Province State University.

The program was implemented in four different phases. Phase 1 focused on Disaster Prevention and Mitigation. It orients the participant on how to increase the resiliency of infrastructure systems and establish an enhanced and effective community-based scientific Disaster Risk Reduction Management and Climate Change Adaptive plan. Phase 2: Disaster Preparedness capacitated the participants in crafting a school-based Disaster Risk Reduction Management Plan to strengthen partnership and coordination among all key players and stakeholders. Phase 3: Disaster Response enabled participants to provide psychosocial support and aid to the disaster-affected population. Phase 4: Disaster Rehabilitation and Recovery aimed to conceptualize a rehabilitation and recovery program for the affected community.

The participants were able to design a school improvement plan that takes the school community's sensitive areas into account by integrating Disaster Risk Reduction into the Teaching.

The School Improvement Plan contextualized for the DRRM program was systematically conceived and crafted through the strong partnership between educational institutions whose key role is to complement and assist the Philippine government incoming up with a comprehensive, innovative, and responsive school-based DRRM plan anchored on the needs of the vulnerable community.

Comprised of various well-thought-out phases, the program did not just provide basic information and knowledge on disaster and other imminent risks, it strengthened and capacitated the skills and competencies of the participants through the different salient pieces of training and activities that equipped and prepared them to respond to identified disaster-prone areas within the province of Biliran. Furthermore, the program's execution is based on a specific DRRM framework, which enables participants to create and implement disaster risk reduction teacher professional development that would eventually create a ripple effect on students and the community's lifelong learning towards a disaster-resilient educational society.

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