

RESEARCH ARTICLE

Open Access

Community Based Disaster Preparedness: Need for a Standardized Training Module

Eleanor Gatchalian-Garingan*

College of Teacher Education, Quirino State University, Diffun, Quirino 3401, Philippines.

*Corresponding author: dwaynegaringan@gmail.com

Received 30 March 2021; Received in revised form 16 April 2021; Accepted 18 April 2021

Abstract

One of the biggest challenges we encounter nowadays is providing information about disaster preparedness and the risk of natural disasters which is critical to minimizing the damage. It aims to assist in the development of critical skills in order to make correct decisions in critical situations. Knowledge provides the best instrument for disseminating the necessary information to reduce disaster risks by implementing appropriate risk reduction measures. This study ascertains the level of disaster preparedness in the case of emergency. It is the descriptive-correlation design with 80 respondents by utilising questionnaires and interview. G-Power; Frequency counts and percentages; Mean; t-test; F- test or Analysis of Variance (ANOVA) and Kendall's tau-b was used. The results revealed the level of disaster preparedness and management only works occasionally. Age, civil status, ethnic affiliation and occupation affected the disaster preparedness and management in the case of emergency. Findings suggested dissemination of disaster risk reduction information at all levels and developing educational programs on disaster risk reduction. Furthermore, developing a safe behaviour model and skills, are necessary to develop their knowledge and skills.

Keywords: community, disaster, preparedness, standardized, training, module.

Introduction

One of the biggest challenges in disaster reduction is providing information on natural disasters and preparedness. This information aims to develop skills and make correct decisions in critical situations. Knowledge and information provide the best instrument for disseminating the information needed to reduce disaster risk by implementing the appropriate risk reduction measures. Therefore, Society has a great moral responsibility to establish a safe environment. A high level of education, awareness, and self-organization will provide a great potential for avoiding or reducing the negative consequences of natural or man-made disasters.

The Philippines is susceptible to various types of natural hazards due to its geographical location and physical environment. Since 1990, the Philippines has been affected by 565 disaster events which have caused an estimated \$US 23 billion in damages (Jha, 2018). Much of the country's exports and trade income have relied on resource-extractive industry (Martinico-Perez, et al., 2018), which further create implications in terms of disaster vulnerability and sustainable economic growth. Large-scale and recurrent disasters have had long-term implications on the country's economy. The estimated multi-hazard annual losses are close to US\$ 8 million, which is equivalent to 69% of the country's social expenditure (Alcayna, et al., 2016). Such impacts had far-reaching economic consequences due to lessened future production, which in turn decreased the annual GDP by 0.9% following the event (Bowen, 2015).

The Philippine Government issued a Presidential Decree No 1566 on June 12, 1978 to strengthen the disaster preparedness and response of the Philippine Government from the national down to the barangay level. Thus, promoting local management assistance among the various Local Government Units (LGUs) and their constituents. The creation of Disaster Coordinating Councils (DCCs) at the different levels became effective upon



the implementation of this law. Aside from the PD No. 1566, the local government code of 1991 (RA. No. 7160) was promulgated. Under this code, the LGUs were appropriated 2% Local Calamity Fund (LCF) to support financial requirement for emergency actions. The code however, was superseded by the Republic Act No. 8185. "An Act Amending Section 324 (D) of RA. No. 7160. Under RA No. 8185, LGUS were appropriated 5% LCF instead of 2% and to disburse said fund for relief, rehabilitation, reconstruction and other works and services XXVII - 54 upon the declaration of calamity area by the authorized local sanggunian concerned, duly approved by the respective local chief executive. As mandated by law, the LCF can only be disbursed in connection with the calamity that occurs during a specific budget year.

In Diffun, Barangay Disaster Coordinating Council should be tailored specifically to provide the needs of the community. The barangay has the inherent responsibility of protecting as constituents from any effects of natural and man-made calamities such as typhoon, volcanic eruption, earthquake, flood, fire explosion and others. To cope with these effects, is to protect population at risk and critical resources is a manifestation of local readiness to minimize and prevent disastrous effects of calamities and other catastrophes. One component of disaster management is preparedness which consists of activities designed to minimized loss of life and damage. Moreover, it is also to organize the temporary removal of people and property from a threatened location and facilitate timely and effective rescue, relief and rehabilitation.

One of the aims in managing disaster preparedness is Public Education & Training on disaster. A disaster preparedness plan will only be effective if those who are the ultimate beneficiaries able to acknowledge in times of disaster and know what to expect. For this reason, an essential part of a disaster preparedness plan is education of those who may be threatened by disaster. Education takes many forms, such as Extension programs, in which communities and village-based extension workers are instructed to provide relevant information and trained for the tasks they should undertake during the event.

On the other hand, one of the goals of CHED as per Memorandum Order 25 s. 2005 is for SUCs/HEIs to become "engines of growth" contributing significantly to poverty alleviation, food production, and sustainable natural resource management through massive technology promotion and commercialization. Extension services are provided in response to the needs and urgent concerns of the community it serves. The extension function makes the Institution's presence felt in the community. It involves the application of existing and new knowledge and technology and those generated in the Institution to improve the quality of life of the people. Through the extension program, people are empowered with the appropriate knowledge, attitudes and skills. It is important and necessary to cater various aspects of the community life.

Furthermore, one of the functions of Quirino State University is extension. The College of Teacher Education – Bachelor in Elementary Education established their extension site at Rizal, Diffun, Quirino. The Pantawid Pamilyang Pilipino Program (4Ps) as the beneficiaries in extension activities. The Pantawid Pamilyang Pilipino Program (4Ps) is a human development measure of the national government that provides conditional cash grants to the poorest of the poor, to improve the health, nutrition, and the education of children aged 0-18. Beneficiaries are selected through the National Household Targeting System for Poverty Reduction (NHTS-PR), which identifies who and where the poor are in the country.

Likewise, in response to the needs and urgent concerns of the community it serves, the College of Teacher Education provided training on sustainable establishment of income generating activities for the Pantawid Pamilyang Pilipino Program (4Ps). Aside from this, the college will cater and capacitate the beneficiaries on disaster risk reduction and management as a result people are empowered with the appropriate knowledge and skills.

In line with this, training module explains the various controllers of disaster risk and elaborates on how they are related to each other. Care has been taken to explain these crucial parameters as lucidly as possible. Starting from the fundamentals, the module builds upon and gradually talks about the different aspects of disaster risk management. The aim is to lay stress on the fact that understanding risk is just the beginning and it needs to be complemented by risk governance, investment in resilience and preparedness which fosters disaster risk reduction and ultimately, disaster resilience. The module will benefit trainees, students, researchers and professionals working in or simply interested to learn about disaster risk reduction and management. Furthermore, this training module in collaboration with the MDRRMC (Municipal Disaster Risk Reduction Management Council) and Barangay Disaster Coordinating Council (BDCC) in future training on disaster preparedness.

Correspondingly, the college would like to deliver information on disaster risk reduction and management. Hence, the study aims in assessing the level of disaster preparedness and management in case of emergency as a need for preparing a training module. In the academic view, this research is expected to increase the repertoire of knowledge, especially in the field of preparedness for the 4Ps. This research is also likely to be used as a source of data or a reference for subsequent researchers in carrying out similar research. Practically, the results of this study would be used to provide input and consideration for policymakers and practitioners to design and organize appropriate training for 4Ps, which aims to increase preparedness in dealing with disasters.

Methods

This is a descriptive- correlation research study where it fits best in studies which aim is to identify relationships between transition conditions (meaning, expectations, level of knowledge/skill, social support, level of planning, and physical and emotional well-being) and indicators of healthy transition (subjective well-being, role mastery, and well-being of relationships). It also sought to determine the level of disaster preparedness and management in case of emergencies. The variable was analysed in relation to selected variables such as sex, age, civil status, ethnic affiliation and occupation. With this method the level of disaster preparedness and management in case of emergencies and socio-demographic profile was determined.

Population and sample

The respondents of this study are composed of the beneficiaries in extension of college activities. The Pantawid Pamilyang Pilipino Program (4Ps) are purposely chosen/selected at Brgy. Rizal, Diffun, Quirino. This research was conducted at Diffun, Quirino, School Year 2016-2017. The software G-Power was used to determine the sample. The number of samples that met the inclusion and exclusion criteria were 80 participants. Using the stratified random sampling, 80 participants were chosen in the study. Out of 80 participants, ten (10) of them were male and seventy (70) were female, their ages ranging from 41 to 51 years old. Majority of their occupation is housekeeping.

Republic Act No. 11310, An Act Institutionalizing the Pantawid Pamilyang Pilipino Program (4Ps). The State shall promote a just and dynamic social order thereby uplifting its citizens and marginalized sectors from poverty through policies that provide adequate social services, promote full employment, a rising standard of living, and an improved quality of life for all. The State recognizes the need to foster social justice as provided for in Article XIII of the 1987 Constitution.

Characteristics of Respondents

There were 80 4Ps (N=80) respondents in this study and their characteristics are provided in table 1. Based on the table, it shows that, majority of the respondents belong to the age range of 41-50 (21.30%), mostly females (87.50%), married (93.80%), Ilocano (63.80%) and housekeeping (61.30%).

Table 1. Demographic characteristics of respondents (N=80).

| Particulars | Frequency | Percent |
|---------------------------|-----------|---------|
| Sex | | |
| Male | 10 | 12.50 |
| Female | 70 | 87.50 |
| Total | 80 | 100.00 |
| Age | | |
| 21-30 | 17 | 21.30 |
| 31-40 | 14 | 17.50 |
| 41-50 | 32 | 40.00 |
| 51 years and above | 17 | 21.30 |
| Mean Age = 37.5 | | |
| Total | 80 | 100.0 |
| Civil Status | | |
| Married | 75 | 93.80 |
| Widower | 1 | 1.30 |
| Annuled | 1 | 1.30 |
| Solo | 3 | 3.80 |
| Total | 80 | 100.00 |
| Ethnic Affiliation | | |
| Ilocano | 51 | 63.80 |
| Ifugao | 27 | 33.80 |
| Others | 2 | 2.50 |
| Total | 80 | 100.00 |
| Occupation | | |
| Housekeeping | 49 | 61.30 |
| Farming | 12 | 15.00 |
| Vendor | 8 | 10.00 |
| Others | 11 | 13.80 |
| Total | 80 | 100.00 |

Data gathering instruments

The main instrument in this study was a questionnaire which appropriate to measure this study as an evidence contains questions about the preparedness and management in case of emergencies. It consisted of two parts: Part I consisting the profile of respondents in terms of their demographic information: sex, age, civil status, ethnic affiliation, and occupation. Whilst part II provide the level of disaster preparedness in the case of emergencies.

Data gathering instruments

The research employed the scientific procedure in conducting research. Upon approval of the operational plan, the researcher personally administered the questionnaires to the respondents. After retrieving the questionnaire, the output was summarized in excel and analysed. Data were managed and input into the Statistical Package for Social Science (SPSS) program for accuracy on the statistical computations. The tables generated from the program were then to be analysed and interpreted which served as basis in providing the conclusions and recommendations.

For the purpose of analysing the result of the research, the following statistics will be used: G-Power; Frequency counts and percentages; Mean; t-test; F- test or Analysis of Variance (ANOVA) and Kendall's tau-b.

Results

The table 2, shows the respondents' level of disaster preparedness. From the descriptive analysis, the mean value on the level of disaster preparedness has a value of 3, which, it can be said that the respondents are occasionally (in the table is written as "sometimes") ready in dealing with disasters.

Table 2. Mean on the level of disaster preparedness.

| Level of Disaster Preparedness | Mean | Descriptive |
|---|------|-------------|
| 1. Do you think your family is relatively well prepared for a disaster such as: | | |
| a. floods | 3.27 | Always |
| b. earthquake | 3.23 | Sometimes |
| c. fire | 3.11 | Sometimes |
| 2. Do you believe that the community you live in is relatively well- prepared for a disaster? | 3.58 | Always |
| 3. Have you discussed disaster preparedness with your family? | 3.45 | Always |
| 4. Do all members of your family know how to call for help? | 3.27 | Always |
| 5. Do you have a disaster supply kit? | 3.51 | Always |
| 6. Do you have alert radio? | 3.51 | Always |
| 7. Do you know where your family will meet outside your home in case of an emergency? | 2.91 | Sometimes |
| 8. Did you have a training on CPR | 2.45 | Often |
| 9. Are all responsible family members current in CPR? | 2.37 | Often |
| 10. Are you trained in First-Aid (within the last 3 years)? | 2.50 | Often |
| 11. Are all responsible family members current in First-Aid? | 2.80 | Sometimes |
| 12. Do you have a charged ABC fire extinguisher? | 1.50 | Never |
| 13. Do you know how to use the fire extinguisher? | 1.96 | Often |
| 14. Do you know how to turn off all utilities (gas, electricity, water, etc.)? | 3.46 | Always |
| 15. Do you know at least two exits from every room in your house in case of a fire? | 3.50 | Always |
| 16. Have you practiced an emergency drill in your home within the past year? | 2.58 | Sometimes |
| 17. Do you believe that community preparedness can make a difference in the ability of emergency officials to respond after a disaster? | 3.25 | Sometimes |
| 18. Do you have a plan for your pets? | 3.43 | Always |
| 19. Do you believe citizens are aware of all potential disasters that could occur in your community? | 3.40 | Always |
| 20. Do you have a plan for making sure of your family members will be safe during a disaster? | 3.51 | Always |
| Mean | 3.02 | Sometimes |

Table 3 shows the respondents' level of disaster preparedness. It showed that the age and civil status have effected the respondents' wide-ranging preparation in dealing with disasters. Furthermore, the respondents' preparation focused on floods and fire.

Table 3. Analysis of variance on the level of disaster preparedness of the respondents.

| Level of Disaster Preparedness | Age | | Civil Status | |
|---|-------------|---------|--------------|---------|
| | t- computed | p-value | t- computed | p-value |
| 1. Do you think your family is relatively well prepared for a disaster such as: | | | | |
| a. floods | 3.01 | .035* | 1.177 | .324 |
| b. earthquake | 1.94 | .130 | 1.224 | .307 |
| c. fire | 2.16 | .099 | 3.309 | .025* |
| 2. Do you believe that the community you live in is relatively well- prepared for a disaster? | .298 | .826 | 1.880 | .140 |
| 3. Have you discussed disaster preparedness with your family? | 1.19 | .316 | .511 | .676 |
| 4. Do all members of your family know how to call for help? | 3.56 | .018* | .967 | .413 |
| 5. Do you have a disaster supply kit? | .689 | .562 | .512 | .675 |

| | | | | |
|---|------|------|-------|------|
| 6. Do you have alert radio? | 1.18 | .321 | .039 | .990 |
| 7. Do you know where your family will meet outside your home in case of an emergency? | .713 | .547 | 1.044 | .378 |
| 8. Did you have a training on CPR | 1.08 | .362 | .100 | .960 |
| 9. Are all responsible family members current in CPR? | .699 | .556 | .200 | .896 |
| 10. Are you trained in First-Aid (within the last 3 years)? | .446 | .721 | .911 | .440 |
| 11. Are all responsible family members current in First-Aid? | .486 | .693 | .391 | .760 |
| 12. Do you have a charged ABC fire extinguisher? | 1.08 | .361 | 1.339 | .268 |
| 13. Do you know how to use the fire extinguisher? | .769 | .515 | .213 | .887 |
| 14. Do you know how to turn off all utilities (gas, electricity, water, etc.)? | .489 | .691 | 1.093 | .357 |
| 15. Do you know at least two exits from every room in your house in case of a fire? | 1.47 | .229 | .227 | .877 |
| 16. Have you practiced an emergency drill in your home within the past year? | 1.82 | .150 | 1.277 | .288 |
| 17. Do you believe that community preparedness can make a difference in the ability of emergency officials to respond after a disaster? | .126 | .944 | .759 | .521 |
| 18. Do you have a plan for your pets? | .956 | .418 | 2.329 | .081 |
| 19. Do you believe citizens are aware of all potential disasters that could occur in your community? | .086 | .967 | 2.252 | .089 |
| 20. Do you have a plan for making sure of your family members will be safe during a disaster? | .614 | .608 | .596 | .620 |

*p-value of 0.05 and below are significant and above 0.05 are not significant.

Table 4 shows the respondents' level of disaster preparedness. It indicated the respondents comprehensive preparation in dealing with disasters. Furthermore, floods, earthquake and fire were given more emphasis by the respondents. Ethnic affiliation and occupation affect the respondents' level of disaster preparedness. Moreover, the Federal Emergency Management Agency (FEMA), recommends for a disaster preparedness kit.

Table 4. Analysis of variance on the Level of disaster preparedness of the respondents.

| Level of Disaster Preparedness | Ethnic Affiliation | | Occupation | |
|---|--------------------|---------|-------------|---------|
| | t- computed | p-value | t- computed | p-value |
| 1. Do you think your family is relatively well prepared for a disaster such as: | | | | |
| a. floods | 7.190 | .001* | 6.800 | .000 |
| b. earthquake | 3.239 | .045* | 2.748 | .049* |
| c. fire | 1.535 | .222 | 3.383 | .022* |
| 2. Do you believe that the community you live in is relatively well- prepared for a disaster? | .485 | .618 | 1.393 | .251 |
| 3. Have you discussed disaster preparedness with your family? | 4.019 | .022* | 1.167 | .328 |
| 4. Do all members of your family know how to call for help? | .733 | .484 | .830 | .481 |
| 5. Do you have a disaster supply kit? | 2.929 | .059* | .569 | .637 |
| 6. Do you have alert radio? | .903 | .410 | 1.447 | .236 |
| 7. Do you know where your family will meet outside your home in case of an emergency? | 4.915 | .010* | 2.157 | .100 |
| 8. Did you have a training on CPR | .482 | .619 | .312 | .817 |
| 9. Are all responsible family members current in CPR? | 1.609 | .207 | .772 | .513 |
| 10. Are you trained in First-Aid (within the last 3 years)? | .314 | .732 | 2.788 | .046* |

| | | | | |
|--|-------|-------|-------|------|
| 11.Are all responsible family members current in First-Aid? | 2.709 | .073 | 1.660 | .183 |
| 12.Do you have a charged ABC fire extinguisher? | 2.585 | .082 | 1.752 | .164 |
| 13.Do you know how to use the fire extinguisher? | .417 | .660 | .065 | .978 |
| 14.Do you know how to turn off all utilities (gas, electricity, water, etc.)? | 4.464 | .015* | .482 | .696 |
| 15.Do you know at least two exits from every room in your house in case of a fire? | 1.236 | .296 | .664 | .577 |
| 16.Have you practiced an emergency drill in your home within the past year? | .252 | .778 | 1.469 | .230 |
| 17.Do you believe that community preparedness can make a difference in the ability of emergency officials to respond after a disaster? | .834 | .438 | .480 | .697 |
| 18. Do you have a plan for your pets? | .091 | .913 | .916 | .438 |
| 19. Do you believe citizens are aware of all potential disasters that could occur in your community? | 4.512 | .014* | 1.763 | .161 |
| 20. Do you have a plan for making sure of your family members will be safe during a disaster? | 2.170 | .121 | .999 | .398 |

*p-value of 0.05 and below are significant and above 0.05 are not significant.

Table 5. Significant relationship between level of disaster preparedness and socio-demographic profile in case of emergencies.

| Level of Disaster Preparedness and Management | | Correlation Coefficient | Significant |
|---|--|-------------------------|-------------|
| Ethnic Affiliation | | | |
| | 1.Do you think your family is relatively well prepared for a disaster such as: | | |
| | a. floods | -.318** | .002 |
| | b. earthquake | -.232* | .027 |
| | 7. Do you know where your family will meet outside your home in case of an emergency? | -.263* | .011 |
| Occupation | | | |
| | 1.Do you think your family is relatively well prepared for a disaster such as | | |
| | a. floods | -.217* | .029 |
| | 6.Do you have alert radio? | .200* | .042 |
| | 10. Are you trained in First-Aid (within the last 3 years)? | .240* | .013 |
| | 16.Have you practiced an emergency drill in your home within the past year? | .188 | .054 |
| | 19. Do you believe citizens are aware of all potential disasters that could occur in your community? | .226 | .026 |

*p-value of 0.05 and below are significant and above 0.05 are not significant.

Based on the table, the relationship between level of disaster preparedness and socio- demographic profile in case of emergencies. The relationship between level of disaster preparedness and socio- demographic profile affects by ethnic affiliation and occupation. Knowledge, awareness, and preparedness in case of disaster or emergency by the respondents were described as adequately. However, respondents also need to have an enhancement training on disaster preparedness and management.

Discussion

The study is to determine the level of disaster preparedness and management in the case of emergencies. For the level of disaster preparedness, the study indicated the respondents were occasionally ready in dealing with disasters. For the analysis of variance on the level of disaster preparedness, age and civil status have an effect on the respondents' wide-ranging preparation in dealing with disasters. Furthermore, the respondents' preparation focused on floods and fire. Moreover, floods, earthquake and fire were given more emphasis by the respondents. Ethnic affiliation and occupation affect the respondents' level of disaster preparedness. For the relationship between level of disaster preparedness and socio-demographic profile in case of emergencies. The relationship between level of disaster preparedness and socio-demographic profile affects by ethnic affiliation and occupation. Knowledge, awareness, and preparedness in case of disaster or emergency by the respondents were described as adequately.

While some studies revealed that occasionally ready in dealing with disasters. Some of the research indicate the effects of crises increased because of insufficient preparedness and planning for the next hazards, causing deeper impacts and a long retro-gradation to the destination (Carlsen and Liburd, 2008). Furthermore, losing the ability to get around, lacking in range and variety of experiences (Brouwer et al., 2008; Leissner et al., 2014; Swenor et al., 2015). These limitations also have an impact on their preparedness in dealing with earthquake and tsunami disaster.

While age and civil status have an effect on the respondents' wide-ranging preparation in dealing with disasters. Furthermore, the respondents' preparation focused on floods and fire. The current findings are related with Fink (1986) clarified that efficient planning has a sufficient role in emergency management. He asserted that planning for emergencies is very important to control the existing event. In addition, it is a technique to avoid hazards such as hotel fires, and demonstrates the intention to recognize the crisis warning signals.

Similarly, hotels have been categorized as high-risk buildings, especially for fires, because of the presence of highly flammable materials and the chance of pervasion of smoke and fire to the rest of the building or even to neighbouring buildings (Hassanain, 2009). Likewise, Subramaniam (2004) spoke about improving knowledge that allows the practitioners to understand hotel fire characteristics, while Ellis (1981) clarified the employees' need to receive sufficient training on how to deal with fires and miscellaneous hazards.

In addition, Furness and Muckett (2007) indicated that the concentration of guests in a specific area could reduce the escaping capacity near exits, which could increase the injuries in case of emergencies. Moreover, it is important to note the number of flammable materials that could turn into suitable fuel for a fire (Goodson & Murnane, 2008). Finally, the hotel design of placing the guest rooms in the highest floors, while the high-risk facilities are placed in the lower floors, is a risky plan that may close the escape exits in case of emergencies (Roberts & Chan, 2000).

While on ethnic affiliation and occupation affect the respondents' level of disaster preparedness. Floods, earthquake, fire, and disaster preparedness kit were given more emphasis by the respondents. The result supported, Furness and Muckett (2007) indicated that the concentration of guests in a specific area could slow the escaping capacity near exits, which could increase the injuries in case of emergencies.

Moreover, Della-Giustina (2003) explained three steps essential in emergency planning: to recognize existing risks, to develop an updated emergency plan, and finally to assure the organization's preparedness for the

emergencies. The plan also should contain the use, maintenance, and upgrading for the security and safety systems (Enz, 2003).

While on the relationship between level of disaster preparedness and socio-demographic profile affects ethnic affiliation and occupation, knowledge, awareness, and preparedness in case of disaster or emergency by the respondents were described as adequately. However, respondents also need to have an enhancement training on disaster preparedness and management.

More research indicates that it can be expected that common preparedness measures include: communication plans; proper maintenance and training of emergency services; emergency shelters and evacuation plans; disaster preparedness kit (Federal Emergency Management Agency, 2021). Some practitioners explained that the organizations that faced a disaster before will be more likely to invest in and develop their own emergency plan, because they suffer from the previous hazards and learn from its effect on the properties and human lives (Guth, 1995; Pearson & Mitroff, 1993).

Furthermore, planning for emergencies should consider several internal factors such as collaboration, communication, and control. But the most important internal factor is the management's commitment to adopt and develop an emergency management plan, which will be a strong guidance and updated message to communicate before, during, and after the crisis (Faulkner, 2001).

Likewise, Caponigro (2000) argued that large organizations are more likely to have an emergency plan than smaller ones, depending on the size and their financial situation. Furthermore, Caponigro clarified that with limited resources, crisis planning is less important for small organizations, as they think that crisis will not affect them, or they will manage their business without a plan. Some practitioners explained that the organizations that faced a disaster before will be more likely to invest in and develop their own emergency plan, because they suffer from the previous hazards and learn from its effect on the properties and human lives (Guth, 1995; Pearson & Mitroff, 1993).

Moreover, stakeholders and managers should be aware of the importance of updating an emergency plan and full detailed information about their hotels, its services, and safety and security procedures adopted in the case of vulnerability. Della-Giustina (2003) explained three steps essential in emergency planning: to recognize existing risks, to develop an updated emergency plan, and finally to assure the organization's preparedness for the emergencies. The plan also should contain the use, maintenance, and upgrading for the security and safety systems (Enz, 2003).

There are several limitations to the current research. One limitation of this research is that the results only represent the indicators from some people on the level of disaster preparedness. It is possible that the researchers did not reach all levels of the community, especially some members who are homebound or who are limited in mobility. Additionally, timeframe in which the data gathered are limited. However, this is the first study to focus on disaster preparedness and therefore our findings provide a useful foundation for future research.

Practical implications

Well-being and disaster preparedness can be bolstered through community-based planning that seeks to address urgent needs of the people residing in vulnerable coastal locations. Specifically, disseminate disaster risk reduction information at all levels, especially among communities living in the high-risk zones; develop educational programs on disaster risk reduction; develop a safe behavior model and skills; and learning by doing is necessary to develop their knowledge and skills.

Conclusions

From the findings of the study, the following conclusions are made. Majority of the respondents belong to the age range 41-50, mostly females, married, Ilocano and housekeeping. The level of disaster preparedness and management in case of emergencies is sometimes. Age, civil status, ethnic affiliation and occupation affects the disaster preparedness and management in case of emergencies. Ethnic affiliation and occupation affect the relationship on disaster preparedness and management in case of emergencies.

This research has important implications for an integrated, community-based approach to disaster preparedness and mitigation has proved very popular and effective in reducing the vulnerability of thousands of Filipinos to both natural hazards and health risks. The success of the Red Cross programme depends on collaboration with local government. This in turn helps the PNRC to advocate for stronger preparedness and mitigation measures to be incorporated in local public land use planning. Community-based disaster preparedness is only a supplement to – not a substitute for – regional and national disaster management. ICDPP is best suited for reducing the impact of small-scale local hazards, although elements of the approach can be adapted to alleviate the effects of larger disasters as well. Enhancement training on disaster preparedness is necessary for mastery. It has the capability and resources to continue to sustain its essential functions without being overwhelmed by the demand placed on them.

The author should synthesize and draw the conclusion upon the application of the method to the data, result and discussion. It is commonly known that the conclusion should summing up the significance of the study and the argument that being proofed in the article.

Acknowledgments

The author would like to thank Pantawid Pamilyang Pilipino Program in Diffun, Quirino, and those who have supported the implementation of this research.

References

- AlBattat, A. R., & Mat Som, A. P. (2013). Emergency preparedness for disasters and crises in the hotel industry. *Sage Open*, 3(3), <https://doi.org/10.1177/2158244013505604>.
- Alcayna, T., Bollettino, V., Dy, P., & Vinck, P. (2016). Resilience and disaster trends in the Philippines: opportunities for national and local capacity building. *PLoS currents*, 8, <https://doi.org/10.1371/currents.dis.4a0bc960866e53bd6357ac135d740846>.
- Bowen, W. G., & Finegan, T. A. (2015). *The economics of labor force participation* (Vol. 2054). Princeton University Press.
- Brouwer, D. M., Sadlo, G., Winding, K., & Hanneman, M. I. (2008). Limitations in mobility: experiences of visually impaired older people. *British Journal of Occupational Therapy*, 71(10), 414-421. <https://doi.org/10.1177/030802260807101003>.
- Caponigro J (2000). *The crisis counselor: A step-by-step guide to managing a business crisis*. Chicago, IL: Contemporary Books.
- Carlsen, J. C., & Liburd, J. J. (2008). Developing a research agenda for tourism crisis management, market recovery and communications. *Journal of Travel & Tourism Marketing*, 23(2-4), 265-276. https://doi.org/10.1300/J073v23n02_20.

- Della-Giustina D. (2003). *The fire safety management handbook (2nd ed.)*. Des Plaines, IL: American Society of Safety Engineers.
- Ellis, R. C. (1981). Training your employees: For fire safety. *Cornell Hotel and Restaurant Administration Quarterly*, 22(3), 12-15. <https://doi.org/10.1177/001088048102200305>.
- Enz C. A. (2003). Changes in U.S. hotel safety and security staffing and procedures during 2001 and 2002, hotel-security update. Ithaca, NY: The Center for Hospitality Research at Cornell University.
- Faulkner, B. (2001). Towards a framework for tourism disaster management. *Tourism management*, 22(2), 135-147. [https://doi.org/10.1016/S0261-5177\(00\)00048-0](https://doi.org/10.1016/S0261-5177(00)00048-0).
- Federal Emergency Management Agency. Build-a-kit. Retrieved on January 18, 2012 from <http://www.ready.gov/build-a-kit>.
- Fink S. (1986). *Crisis management: Planning for the inevitable*. New York, NY: American Management Association.
- Furness A., & Muckett M. (2007). *Introduction to fire safety management (1st ed.)*. London, England: Butterworth-Heinemann.
- Goodson C., & Murnane L. (2008). *Essentials of firefighting and fire department operations (5th ed.)*. Oklahoma City: Fire Publications, Oklahoma State University.
- Guth, D. W. (1995). Organizational crisis experience and public relations roles. *Public Relations Review*, 21(2), 123-136. [https://doi.org/10.1016/0363-8111\(95\)90003-9](https://doi.org/10.1016/0363-8111(95)90003-9).
- Hassanain, M. A. (2009). Approaches to qualitative fire safety risk assessment in hotel facilities. *Structural Survey*, 27(4), 287-300. <https://doi.org/10.1108/02630800910985081>.
- Jha, A., Lin, L., Short, S. M., Argentini, G., Gamhewage, G., & Savoia, E. (2018). Integrating emergency risk communication (ERC) into the public health system response: Systematic review of literature to aid formulation of the 2017 WHO Guideline for ERC policy and practice. *PloS one*, 13(10), e0205555. <https://doi.org/10.1371/journal.pone.0205555>.
- Leissner, J., Coenen, M., Froehlich, S., Loyola, D., & Cieza, A. (2014). What explains health in persons with visual impairment?. *Health and quality of life outcomes*, 12(1), 1-16. <https://doi.org/10.1186/1477-7525-12-65>.
- Martinico-Perez, M. F. G., Schandl, H., Fishman, T., & Tanikawa, H. (2018). The socio-economic metabolism of an emerging economy: monitoring progress of decoupling of economic growth and environmental pressures in the Philippines. *Ecological Economics*, 147, 155-166. <https://doi.org/10.1016/j.ecolecon.2018.01.012>.
- Presidential Decree No 1566 on June 12. 1978. Strengthening the Philippine Disaster Control, Capability and Establishing the National Program on Community Disaster Preparedness.
- Republic Act No. 7160 Local Government Code of The Philippines, Devolving Certain Functions to Lgus, Including the Enforcement of Laws on Cleanliness and Sanitation, and Preparation of Their Respective Solid Waste Management Programs.
- Roberts, D., & Chan, D. H. W. (2000). Fires in hotel rooms and scenario predictions. *International Journal of Contemporary Hospitality Management*, 12(1), 37-45. <https://doi.org/10.1108/09596110010305028>.
- Subramaniam, C. (2004). Human factors influencing fire safety measures. *Disaster Prevention and Management: An International Journal*, 13(2), 110-116. <https://doi.org/10.1108/09653560410534243>.

Swenor, B. K., Simonsick, E. M., Ferrucci, L., Newman, A. B., Rubin, S., Wilson, V., & Health, Aging and Body Composition Study. (2015). Visual impairment and incident mobility limitations: the health, aging and body composition study. *Journal of the American Geriatrics Society*, 63(1), 46-54.
<https://doi.org/10.1111/jgs.13183>.