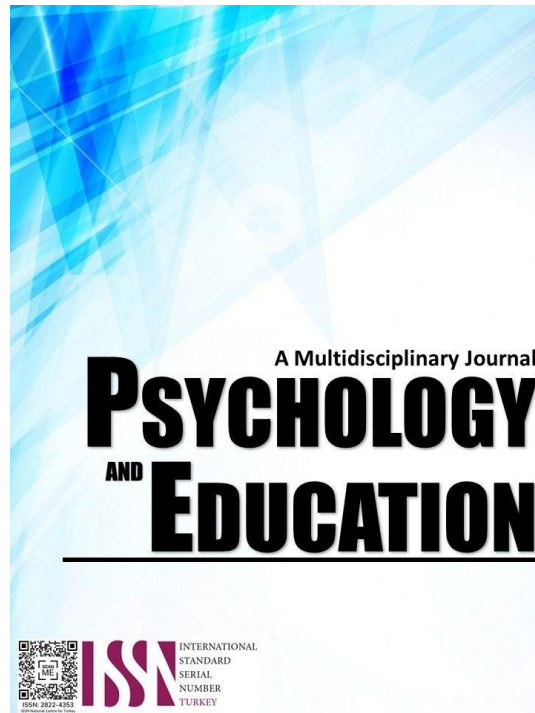# THE IMPACTS OF MUNICIPAL DISASTER RISK REDUCTION MANAGEMENT PROGRAMS TO THE RESIDENTS OF SELECTED BARANGAYS OF QUEZON, QUEZON

The Impacts of Municipal Disaster Risk Reduction Management Programs to the Residents of Selected Barangays of Quezon, Quezon

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Abstract

This study aimed to determine the impacts of municipal disaster risk reduction management programs on the residents of selected barangays of Quezon, Quezon. It determined the profile of the respondents in terms of age, sex, and address. It also revealed the impact of the municipal disaster risk reduction management office in terms of risk awareness and preparedness, advocacy for risk reduction, community capacity building, community awareness, and coping skills, as well as rescue activities. The researcher used a descriptive method of research. This study employed a proportionate random sampling technique. Under this procedure, the researcher considered using one hundred (100) respondents from the selected barangay residents in Quezon, Quezon to get 100% of the respondents. The findings revealed that most of the respondents are between 31 and 35 years old. The female and male respondents have the same percentage. Most of the respondents are from Brgy. Gumubat and Brgy. Villa Belen. This study found that the average mean of 4.26, interpreted as 'Very Much Agree,' indicated that most respondents strongly agreed with the impacts of the municipal disaster risk reduction management office in terms of risk awareness and preparedness. Likewise, the average mean of 4.05, interpreted as Agree, indicated that most of the respondents agreed on the impacts of the municipal disaster risk reduction management office in terms of advocacy for risk reduction. The average mean of 4.23, interpreted as very much agree, indicated that most of the respondents very much agreed on the impacts of municipal disaster risk reduction management programs in terms of use of community capacity building. It was found that the average mean of 4.32, interpreted as 'very much agree,' indicated that most respondents strongly agreed on the impacts of the municipal disaster risk reduction management office in terms of community awareness and coping skills. The average mean of 4.23, interpreted as 'Very Much Agree,' indicated that most respondents strongly agreed with the impacts of the municipal disaster risk reduction management office in terms of rescue activities. Based on the results of the Kruskal-Wallis H-test, all null hypotheses regarding age, sex, and address are accepted, which means that there is no significant difference in the perceived impacts of the municipal disaster risk reduction management office when respondents are grouped by profile. From the result of this study, the following were recommended: Barangay Community may actively participate in community-based disaster risk reduction activities and initiatives, Barangay Officials may allocate sufficient resources for disaster preparedness, response, and recovery, Residents may participate in community-based disaster preparedness activities, and Future Researchers may conduct a parallel study and evaluate the long-term impact of disaster risk reduction interventions.

Keywords: *advocacy for risk reduction, community awareness and coping skills, community capacity building, municipal disaster risk reduction management office, rescue activities, risk awareness and preparedness*

Introduction

Ebay (2014) explores the local government unit (LGU) of San Jose de Buenavista in the Philippines, focusing on managing risks associated with multiple hazards to protect people, livelihoods, and local development gains. It analyzes the process of pursuing risk management objectives, considering local contextual realities. The LGU's risk management initiatives include disaster prevention and mitigation, disaster preparedness, emergency response, and recovery and rehabilitation. The paper suggests that cost-saving strategies can be replicated by communities and organizations with financial limitations. The paper argues that risk management is a fundamental development strategy for local development goals, combining governance, risk assessment, knowledge management, vulnerability reduction, and preparedness strategies. Key elements include local leadership, people's participation, environmental resource management, and continuous capability building. Risk management must be mainstreamed into local development to develop community resiliency.

Domingo and Manejar (2018) emphasize a proactive approach to managing disaster risks rather than a reactive one. By identifying vulnerabilities and hazards in advance, the MDRRMO focuses on risk reduction rather than relief response alone. The MDRRMO advocates for disaster risk reduction (DRR) at various levels and raises awareness about the importance of preparedness, mitigation, and resilience within the community. It increases community awareness of threats, hazards, and vulnerabilities, and equips residents with the necessary skills to cope with the negative impacts of disasters. By enhancing institutional capacity, the MDRRMO strengthens local government units (LGUs) and emergency response teams. This capacity-building contributes to efficient disaster management and poverty reduction. In summary, the MDRRMO serves as a vital link between disaster risk reduction strategies, community preparedness, and effective emergency response within the municipality.

Every community faces a variety of hazards and disaster risks that may result in environmental emergency situations. The potential impacts from these accidents and disasters may vary substantially depending upon the characteristics of the community and its access

to preparedness and emergency response resources.

The Philippines has a law regarding this, Republic Act No. 10121, also known as the Philippine National Disaster Risk Reduction and Management Act of 2010 (NDRRM Act). It is a significant legislation that sets the policy direction and institutional arrangements for disaster risk reduction and management in the Philippines, with the goal of building a disaster-resilient nation that can effectively mitigate and respond to disasters and protect the well-being of its people.

One of the provinces in the Philippines that has taken action regarding this issue is Laguna, located 30 km outside Manila, which has exposed it to multiple hazards, primarily flooding (Lim, 2015).

The municipality of Kalayaan is one of the thirty municipalities in Laguna and is also considered one of the smallest municipalities in the province, with only three barangays: Longos, San Antonio, and San Antonio. It is also considered a landlocked municipality, meaning that it is surrounded by land, with possible hazards that may come from Laguna de Bay. The municipality is exposed to multiple hazards, which are flooding, falling rocks, and landslides. This has led the municipality to establish its own Municipal Disaster Risk Reduction and Management Office (MDRRMO) (Cabanig, 2023).

The actions of local officials play a significant role in establishing disaster management and disaster awareness within the community. It reduces the vulnerability of the municipality and its communities to disasters and ensures the effectiveness and coordination of response when emergencies happen. However, having laws and awareness of disasters does not always play well when unforeseen disasters occur; local officials and residents need to be prepared and knowledgeable about them. The research aimed to determine the impacts of the Municipal Disaster Risk Reduction Management Office on the residents of selected barangays in Quezon, Quezon, which is among the disaster-prone areas.

Research Questions

This study aimed to determine the benefits of municipal disaster risk reduction management programs to the residents of selected barangays of Quezon, Quezon. Specifically, it sought to answer the following:

1. What is the profile of the residents in terms of:
    1.1. age;
    1.2. sex; and
    1.3. address?
2. What are the impacts of municipal disaster risk reduction management programs to the residents of selected barangays in terms of:
    2.1. risk awareness and preparedness;
    2.2. advocacy for risk reduction;
    2.3. community capacity building;
    2.4. community awareness and coping skills; and
    2.5. rescue activities?
3. Is there any significant difference on the perceived impacts of municipal disaster risk reduction management programs to the residents of selected barangays when the respondents are grouped by profile?

Methodology

Research Design

This study used descriptive research. Descriptive research aims to accurately and systematically describe a population, situation, or phenomenon (McCombes, 2019). The descriptive method is used to describe the personal profile of the respondents along age, sex, and address.

Respondents

To determine the results of this study, the researcher identified the target population. The study determined the impact of the Municipal Disaster Risk Reduction Management Office using the sample population. The respondents of this study is one hundred (100) residents of barangays in Quezon, Quezon. Proportionate random sampling involves selecting a subset of a population randomly. In this sampling method, each member of the population has an exactly equal chance of being selected (L. Thomas, 2020).

Instrument

This study used a survey questionnaire as the research instrument. The survey questionnaire had two parts. Part I covered the general information of the students, including age, sex, and address. Part II included the impacts of municipal disaster risk reduction management programs in the barangays in terms of risk awareness and preparedness, advocacy for risk reduction, community capacity building, community awareness and coping skills, and rescue activities. The questionnaire used a Likert scale of 5 - Very Much Agree (VMA), 4 - Agree (A), 3 - Moderately Agree (MA), 2 - Disagree (D), and 1 - Strongly Disagree (SD) for identifying the impacts of the Municipal Disaster Risk Reduction Management Office.

Two experts validated the researcher-made questionnaire. A pilot test was conducted with twelve (12) respondents from a barangay that was not a target of the study, using Cronbach's Alpha. Cronbach's Alpha is a measure of the internal consistency of a research instrument. If the result is 0.70 and above, the instrument is considered reliable. The result for risk awareness and preparedness was 0.89, which indicates good internal consistency. In advocacy for risk reduction, the result was 0.98, interpreted as excellent. The result of community capacity building was 0.99, also interpreted as excellent. Community awareness and coping skills yielded a result of 0.89, interpreted as good, while rescue activities had a result of 0.98, interpreted as excellent.

Procedure

Prior to the conduct of the study, the researcher sent a letter to the barangay captain as well as to the barangay officials. Upon approval, the researcher administered the instrument to the target respondents.

The survey questionnaires were distributed to the respondents of this study. After the distribution of the survey questionnaires, the retrieval, collection, and gathering process was followed for the purpose of analysis and interpretation of the gathered data.

Data Analysis

In this study, the researcher used statistical measures to treat the collected data. All the data were carefully read and examined for analysis. The data gathered through the questionnaires were analyzed and interpreted using percentages, means, and verbal interpretation. The responses were tabulated and interpreted according to the size of the percentage distribution. To get the weighted mean, the researcher used the formula (Calmorin, 2010, p. 194, as cited in De Luna, 2012–2013). To test the significant difference of three or more means, the researcher used the Kruskal-Wallis test for non-parametric data.

Results and Discussion

This chapter shows the presentation, analysis, and interpretation of the gathered data from the respondents. The data were presented in tabular form, followed by their descriptive analysis. The interpretation of the data was also provided to elaborate on the data from the table.

Table 1. *Frequency and Percentage Distribution of the Respondents According to Age*

Age	Frequency	Percentage (%)	Rank
15years old & below	7	7	6
16-20years old	17	17	2
21-25years old	11	11	3.5
26-30years old	11	11	3.5
31-35years old	35	35	1
36-40years old	8	8	5
41-45years old	3	3	8.5
46-50years old	5	5	7
51years old& above	3	3	8.5
Total	100	100	

Table 1 shows the age distribution of respondents according to age. Of the total respondents, 7 individuals or 7% were 15 years old and below, 17 individuals or 17% were 16–20 years old, 11 individuals or 11% were 21–25 years old, and 11 individuals or 11% were 26–30 years old. Thirty-five individuals, or 35% were 31–35 years old, 8 individuals or 8% were 36–40 years old, 3 individuals or 3% were 41–45 years old, 5 individuals or 5% were 46–50 years old, and 3 individuals or 3% were 51 years old and above. It can be inferred that most of the respondents are aged 31–35 years old.

Hilario and Jara's (2024) study on flood mitigation in Santo Tomas, Davao del Norte, shows the importance of including people of all ages in disaster planning. By gathering feedback from different age ranges, they obtained diverse perspectives on strategies such as riverbank rehabilitation and reforestation.

Table 2. *Frequency and Percentage Distribution of the Respondents According to Sex*

Sex	Frequency	Percentage (%)	Rank
Male	50	50	1.5
Female	50	50	1.5
Total	100	100	

Table 2 exhibits the distribution of respondents according to sex. Male respondents had a frequency of 50, which accounts for 50%, while female respondents had a frequency of 50, which accounts for 50%. The data suggest an equal distribution among male and female respondents.

McGinn and Venkateswaran's (2020) study emphasizes the importance of including both genders in disaster risk management. They emphasize that disaster policies often ignore gender representation, even though men and women participate equally in communities. Furthermore, according to them, making disaster planning more gender-responsive can strengthen preparedness and responses.

Table 3. *Frequency and Percentage Distribution of the Respondents According to Address*

Address	Frequency	Percentage (%)	Rank
Argosino	19	19	4.5
Del Pilar	20	20	3
Gumubat	21	21	1.5
Villa Belen	21	21	1.5
Villa Mercedes	19	19	4.5
Total	100	100	

Table 3 displays the distribution of respondents according to their address. The data revealed that 19 individuals or 19% of respondents, are from Argosino, 20 individuals or 20% are from Del Pilar, 21 individuals or 21% are from Gumubat, 21 individuals or 21% are from Villa Belen, and 19 individuals or 19% are from Villa Mercedes. The data implies that most respondents are from Gumubat and Villa Belen. Añasco and Monteclaro's (2021) study on hazard risks in Guimaras shows that some barangays had hazard maps, while others did not. They emphasize the need to communicate disaster preparedness information to all areas. Additionally, each barangay should display hazard maps to ensure that all residents are informed and prepared.

Table 4. *Respondents' Assessment on the Perceived Impacts of Municipal Disaster Risk Reduction Management Programs to the Residents in Terms of Risk Awareness and Preparedness*

Indicators	Mean	Verbal Interpretation	Rank
1. Empowering communities with knowledge and awareness has significantly reduced drowning incidents in high-risk areas.	4.76	Very Much Agree	1
2. Early warning systems are more robust, and communities are better equipped to respond swiftly to flash floods, resulting in a decline in drowning-related mortality rates.	4.48	Very Much Agree	2
3. The absence of a warning system caught people off guard, emphasizing the importance of preparedness.	4.05	Agree	4
4. Forecasts and warnings were issued; lack of preparedness led to unprecedented loss of life and damage.	3.83	Agree	5
5. This collaborative approach ensures a faster response and better resilience.	4.16	Agree	3
Average Mean	4.26	Very Much Agree	

Legend: *Strongly Disagree (1.00–1.80), Disagree (1.81–2.60), Moderately Agree (2.61–3.40), Agree (3.41–4.20), Very Much Agree (4.21–5.00)*

Table 4 presents the perceived impacts of municipal disaster risk reduction management programs on the residents in terms of risk awareness and preparedness. The respondents very much agree that empowering communities with knowledge and awareness has significantly reduced drowning incidents in high-risk areas, as shown by the highest mean of 4.76. However, the respondents agree that, although forecasts and warnings were issued, a lack of preparedness led to an unprecedented loss of life and damage, as indicated by the lowest mean of 3.83. The average mean is 4.26, interpreted as "strongly agree."

The results show that the municipal disaster risk reduction management office has successfully increased risk awareness, especially in high-risk areas, which has helped lower drowning incidents. However, on preparedness, it suggests that despite awareness, some residents were still unprepared when warnings were issued. This highlights the need for more comprehensive preparation, such as hands-on training or drills.

Moreover, the data highlights the importance of continuing to improve both awareness and preparedness to make communities more resilient in future disasters. Traya et al. (2022) introduced a tsunami alert system that provides real-time alerts to Abuyog residents, helping to increase risk awareness and preparedness through timely information and safe location recommendations. Their work emphasizes the importance of awareness tools to reduce disaster risks.

Similarly, Gatchalian and Pascual (2023) discussed the use of text messaging by government agencies in the Philippines to communicate with citizens quickly. Although connectivity can sometimes reduce its effectiveness, this highlights the need for reliable communication methods to enhance community readiness, particularly when addressing location-specific hazards.

Table 5. *Respondents' Assessment on the Perceived Impacts of Municipal Disaster Risk Reduction Management Programs to the Residents in Terms of Advocacy for Risk Reduction*

Indicators	Mean	Verbal Interpretation	Rank
1. Advocacy campaigns raise awareness about various risks, including natural disasters, climate change, and health emergencies.	4.13	Agree	2
2. Advocacy efforts influence policy decisions at local, national, and international levels.	4.03	Agree	3
3. Advocacy encourages behavioral changes that reduce risk.	3.99	Agree	4
4. Advocacy campaigns can encourage households to create emergency kits, secure heavy furniture, and develop family communication plans.	3.94	Agree	5
5. Advocacy fosters community engagement by bringing together diverse stakeholders.	4.14	Agree	1
Average Mean	4.05	Agree	

Legend: *Strongly Disagree (1.00–1.80), Disagree (1.81–2.60), Moderately Agree (2.61–3.40), Agree (3.41–4.20), Very Much Agree (4.21–5.00)*

Table 5 presents the perceived impacts of municipal disaster risk reduction management programs to the residents in terms of advocacy

for risk reduction. The respondents agreed that advocacy fosters community engagement by bringing together diverse stakeholders, as shown by the highest mean of 4.14. Meanwhile, the respondents also agreed that advocacy campaigns can encourage households to create emergency kits, secure heavy furniture, and develop family communication plans, as shown by the lowest mean of 3.94. The average mean is 4.05, interpreted as "Agree."

The findings suggest that the municipal disaster programs' advocacy is effective in bringing the community together. However, for household preparedness actions, such as making emergency kits, it indicates that while people are aware of risk reduction, they may need more support to take practical steps at home. This suggests that the office should focus more on promoting specific preparedness within the household.

Angeles (2019) focused on how the Philippine DRRM Act of 2010 enables volunteer participation, showing the importance of community and volunteer cooperation in disaster management efforts led by local government units (LGUs). This aligns with the advocacy role in bringing community members together for risk reduction.

Table 6. *Respondents' Assessment on the Perceived Impacts of Municipal Disaster Risk Reduction Management Programs to the Residents in Terms of Community Capacity Building*

Indicators	Mean	Verbal Interpretation	Rank
1. Equip community members with practical skills, such as disaster response, first aid, sustainable agriculture, and entrepreneurship.	4.46	Very Much Agree	1
2. Encourages the emergence of local leaders who can mobilize their communities.	4.19	Agree	3
3. Communities actively participate in identifying their needs, setting priorities, and designing solutions.	4.11	Agree	4
4. Capacity building fosters networks and collaborations among community members, organizations, and institutions.	4.10	Agree	5
5. Capacity building recognizes and values indigenous knowledge, traditions, and cultural practices.	4.29	Very Much Agree	2
Average Mean	4.23	Very Much Agree	

Legend: *Strongly Disagree (1.00–1.80), Disagree (1.81–2.60), Moderately Agree (2.61–3.40), Agree (3.41–4.20), Very Much Agree (4.21–5.00)*

Table 6 presents the perceived impacts of municipal disaster risk reduction management programs on residents in terms of community capacity building. The respondents strongly agree that capacity building equips community members with practical skills, such as disaster response, first aid, sustainable agriculture, and entrepreneurship, as evidenced by the highest mean of 4.46.

Furthermore, the respondents agreed that capacity building fosters networks and collaborations among community members, organizations, and institutions, evidenced by the lowest mean of 4.10. The average mean is 4.23, interpreted as "very much agree".

The findings show that the municipal disaster risk reduction program's capacity-building programs are effective in teaching important skills, like disaster response, first aid, and sustainable agriculture, which help the community be more prepared for emergencies. However, the office may need to improve teamwork and partnerships within the community since fostering collaboration among community members is the least among the indicators.

De Vera et al. (2019) conducted a comprehensive study on community engagement in disaster risk reduction initiatives across the Philippines. Their findings emphasize the critical role of inter-agency collaboration and community mobilization in effective disaster preparedness, as seen in community flood control strategies in Malabon and Candaba. Moreover, their study suggests that comprehensive disaster management programs can be strengthened through networks and partnerships within communities.

Table 7. *Respondents' Assessment on the Perceived Impacts of Municipal Disaster Risk Reduction Management Programs to the Residents in Terms of Community Awareness and Coping Skills*

Indicators	Mean	Verbal Interpretation	Rank
1. Raise awareness about the threats posed by various hazards (such as typhoons, earthquakes, floods, and pandemics) and their potential impacts on the community.	4.47	Very Much Agree	1.5
2. By understanding risks and vulnerabilities, community members can take preventive measures, prepare emergency kits, and develop evacuation plans.	4.23	Very Much Agree	4
3. Provide training and workshops to equip community members with necessary coping skills.	4.13	Agree	5
4. Empower communities to support each other, share knowledge, and build resilience.	4.32	Very Much Agree	3
5. MDRRMOs train and enhance the skills of emergency response teams.	4.47	Very Much Agree	1.5
Average Mean	4.32	Very Much Agree	

Legend: *Strongly Disagree (1.00–1.80), Disagree (1.81–2.60), Moderately Agree (2.61–3.40), Agree (3.41–4.20), Very Much Agree (4.21–5.00)*

Table 7 demonstrates the perceived impacts of municipal disaster risk reduction management programs to the residents in terms of community awareness and coping skills. The respondents very much agree that community awareness and coping skills raise awareness about the threats posed by various hazards (such as typhoons, earthquakes, floods, and pandemics) and that MDRRMOs train and enhance the skills of emergency response teams, as shown by the highest mean of 4.47.

Furthermore, the respondents agree that community awareness and coping skills provide training and workshops to equip community

members with necessary coping skills, as reflected by the lowest mean of 4.13. The average mean is 4.32, interpreted as "very much agree."

The findings suggest that the municipal disaster risk reduction programs have been successful in raising community awareness and training emergency response teams. However, it also indicates that the practical coping skills of residents should be further improved. This indicates that while people are informed about risks, additional training and workshops are necessary to better equip them with the necessary skills to effectively handle disasters.

Sotto Jr. (2022) examined the flood control measures in Nabua, Philippines, emphasizing the role of community-based interventions and the importance of communication tools like social media to increase public awareness of disaster preparedness and response. Their research supports the need for more widespread and targeted training in coping skills.

Table 8. *Respondents' Assessment on the Perceived Impacts of Municipal Disaster Risk Reduction Management Programs to the Residents in terms of Emergency Response*

Indicators	Mean	Verbal Interpretation	Rank
1. They act as the central coordinating body during rescue operations, ensuring that resources and personnel are deployed efficiently.	4.24	Very Much Agree	3
2. Can perform operations such as extracting people trapped in collapsed buildings, conducting water rescues during floods, or navigating through debris after landslides.	4.20	Agree	4
3. They play a proactive role in community preparedness, educating residents about evacuation procedures and conducting skills.	4.16	Agree	5
4. Can manage and maintain emergency supplies and equipment such as first aid kits, stretchers, boats, and communication devices.	4.27	Very Much Agree	1
5. They gather data on disaster impacts and response effectiveness, which helps in improving future disaster preparedness and response strategies.	4.26	Very Much Agree	2
Average Mean	4.23	Agree	

Legend: *Strongly Disagree (1.00–1.80), Disagree (1.81–2.60), Moderately Agree (2.61–3.40), Agree (3.41–4.20), Very Much Agree (4.21–5.00)*

Table 8 demonstrates the perceived impacts of municipal disaster risk reduction management programs to the residents in terms of rescue activities. The respondents agree that rescue activities enable them to manage and maintain emergency supplies and equipment, such as first aid kits, stretchers, boats, and communication devices, as indicated by the highest mean of 4.27.

Furthermore, the respondents agreed that they play a proactive role in community preparedness, educating residents about evacuation procedures and conducting skills, shown by the lowest mean of 4.16. The average mean is 4.23, interpreted as "agree."

The research indicates that the municipal disaster risk reduction programs demonstrate effective management of emergency supplies and equipment. Nevertheless, there is a need to enhance community involvement, particularly in educating residents about evacuation procedures. Although the office is well-prepared to respond to disasters, it is essential to focus on community involvement and education to enhance overall resilience. By providing more hands-on training and public education, the office can encourage residents to be more proactive in their disaster preparedness efforts.

Fekete et al. (2016) and McEntire et al. (2004) both emphasize the importance of community-focused approaches in disaster preparedness. Fekete et al. (2016) emphasize that local governments should empower residents by providing essential resources like first aid kits and boats, along with education and training, to strengthen community resilience.

Similarly, McEntire et al. stress that effective disaster response requires not only adequate equipment but also well-informed and trained community members. Both studies support the idea that well-equipped and educated communities are better prepared to handle disasters.

Table 9. *Summary Table on Respondents' Assessment on the Perceived Impacts of Municipal Disaster Risk Reduction Management Programs to the Residents*

Impacts of Municipal Disaster Risk Reduction Management Programs to the Residents	Mean	Verbal Interpretation	Rank
Risk Awareness and Preparedness	4.26	Very Much Agree	2
Advocacy for Risk Reduction	4.05	Agree	5
Community Capacity Building	4.23	Very Much Agree	3.5
Community Awareness and Coping Skills	4.32	Very Much Agree	1
Rescue Activities	4.23	Very Much Agree	3.5
Average Mean	4.22	Very Much Agree	—

Legend: *Strongly Disagree (1.00–1.80), Disagree (1.81–2.60), Moderately Agree (2.61–3.40), Agree (3.41–4.20), Very Much Agree (4.21–5.00)*

Table 9 presents the summary table on the perceived impacts of municipal disaster risk reduction management programs to the residents. It revealed that the respondents very much agree that the municipal disaster risk reduction management office has the most significant impact in community awareness and coping skills, evidenced by the highest average mean of 4.32. Meanwhile, the respondents agree that the municipal disaster risk reduction management office has the least impact in advocacy for risk reduction,

evidenced by the lowest average mean of 4.05.

De Vera et al. (2019) and Sotto Jr. (2022) stress the importance of community awareness and cooperation, stating that early warnings, evacuation planning, and active community involvement can improve people's ability to cope with disasters. Similarly, Quitain and Parayno (2021) and Guanzon and Santos (2017) emphasize that protecting ecosystems and enhancing long-term risk reduction through education and policies are also essential. While the MDRRMO is effective in promoting awareness, these studies suggest that a greater focus on advocacy and long-term community involvement is necessary for lasting resilience.

Table 10. *Significant Difference on the Perceived Impacts of Municipal Disaster Risk Reduction Management Programs to the Residents when Respondents are Grouped According to Age*

Groups	N	Median	df	H value	Critical Value	Significant Level	P-value	Decision
15y/o & below	7	4.40	8	5.832	15.507	0.05	0.667	Accept Ho
16-20 y/old	17	4.28						
21-25 y/old	11	4.36						
26-30 y/old	11	4.24						
31-35 y/old	35	4.20						
36-40 y/old	8	4.34						
41-45 y/old	3	4.08						
46-50 y/old	5	4.32						
51y/old &above	3	4.16						

Table 10 shows the significant differences in the perceived impacts of municipal disaster risk reduction management programs on residents when respondents are grouped by age. Since the H value of 5.832 is less than the critical value of 15.507 and the p-value of 0.667 is greater than the 0.05 level of significance, the null hypothesis is not rejected. This suggests that there is no significant difference in the responses of different age groups toward the perceived impacts of the municipal disaster risk reduction management office to the residents.

The findings suggest that people of all ages generally observe the work of the municipal disaster risk reduction office in a similar manner. This means that the office's programs are likely understood equally by all age groups, with other factors besides age possibly having a greater influence on their views. For officials, the findings could indicate that they don't need to alter their messages for different age groups since a single, broad approach may be effective.

Luna and Francisco (2020) examined disaster preparedness programs across various demographic groups and concluded that different age groups shared similar perceptions of community preparedness activities. This suggests that the impact of community programs can be widely effective across age groups, indicating that the MDRRMO's impact is perceived similarly by all ages.

Table 11. *Significant Difference on the Perceived Impacts of Municipal Disaster Risk Reduction Management Programs to the Residents when Respondents are Grouped According to Sex*

Groups	N	Median	df	H value	Critical Value	Significant Level	P-value	Decision
Male	50	4.26	1	0.417	3.841	0.05	0.519	Accept Ho
Female	50	4.22						

Table 11 determines the significant differences on the perceived impacts of municipal disaster risk reduction management programs to the residents when respondents are grouped according to sex. Since the H value of 0.417 is less than the critical value of 3.841 and the p-value of 0.519 is greater than the 0.05 level of significance, it failed to reject the null hypothesis. This suggests that there is no significant difference in the responses of male and female respondents toward the perceived impacts of municipal disaster risk reduction management programs to the residents.

The results show that male and female respondents generally view the impact of the municipal disaster risk reduction programs in the same way. Since sex does not significantly affect their perceptions, both groups seem to have similar opinions on the office's effectiveness. Furthermore, this means that the office doesn't need to create separate strategies for men and women.

McGinn and Venkateswaran (2020) emphasize the need for gender-inclusive disaster risk management, stating that both men and women should be included in planning and response efforts. While the study indicates that women's concerns are often overlooked, it also indicates that when disaster management is inclusive, both men and women can have similar views on its effectiveness. This supports the finding that there is no significant difference between how male and female respondents perceive the impact of the MDRRMO.

Table 12 establishes the significant differences on the perceived impacts of municipal disaster risk reduction management programs to the residents when respondents are grouped according to their address. Since the H value of 7.638 is less than the critical value of 9.488 and the p-value of 0.106 is greater than the 0.05 level of significance, it failed to reject the null hypothesis. This suggests that there is no significant difference in the responses of respondents living in different barangays toward the perceived impacts of the municipal

disaster risk reduction management office to the residents.

Table 12. *Significant Difference on the Perceived Impacts of Municipal Disaster Risk Reduction Management Programs to the Residents when Respondents are Grouped According to their Address*

Groups	N	Median	df	H value	Critical Value	Significant Level	P-value	Decision
Argosino	19	4.28	4	7.638	9.488	0.05	0.106	Accept Ho
Del Pilar	20	4.36						
Gumubat	21	4.24						
Villa Belen	21	4.16						
Villa Mercedes	19	4.16						

The results show that residents across different barangays generally have similar views on the impact of the municipal disaster risk reduction programs. Since the address doesn't seem to affect their perceptions, the office's programs are likely understood in the same way by residents everywhere. This means the office can use a single, consistent approach to communicate its initiatives across the municipality, rather than customizing by barangay.

Añasco and Monteclaro (2021) studied communities in Guimaras, Philippines, and found that while some barangays had hazard maps and DRRM plans, not all residents had seen them. Despite this, the study showed that communication was generally effective because most residents spoke the same language, Hiligaynon. This suggests that residents from different barangays had similar access to disaster information, supporting the findings that the MDRRMO's programs are understood similarly across the municipality.

Conclusions

Based on the findings discussed in this research, the following conclusions were drawn. Most of the respondents are between thirty-one to thirty-five years old. Both male and female respondents have the same percentage when it comes to sex. Most of the respondents are from Brgy. Gumubat and Brgy. Villa Belen. Residents from selected barangays in Quezon, Quezon, very much agreed that community awareness and coping skills have the most significant impact on the residents, as per the Municipal Disaster Risk Reduction Management Office. The perception of the respondents on the impacts of Municipal Disaster Risk Reduction Management Programs to the residents when grouped according to age, sex, and address does not vary.

Based on the findings and conclusions in this study, the recommendations of the researcher made help the following: To the Barangay Community, they may actively participate in community-based disaster risk reduction activities and initiatives. To the Barangay Officials, they may allocate sufficient resources for disaster preparedness, response, and recovery. They may need to improve teamwork and partnership within the community. For residents, participation in community-based disaster preparedness activities is encouraged. They may take active steps to prepare for emergencies at home, such as preparing emergency kits in their households. For future researchers, they may conduct a parallel study to evaluate the long-term impact of disaster risk reduction interventions. They may conduct regular community assemblies and dialogues to discuss disaster risk, preparedness, and response plans, aiming to increase public awareness and understanding of disaster risk, which is expected to increase by 5%.

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