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INVESTIGATING DISASTER RESPONSE AND RESOURCE ADEQUACY IN BINMALEY PANGASINAN

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ABSTRACT

This study assessed the adequacy of emergency supplies and the effectiveness of disaster response in the Municipality of Binmaley, Pangasinan, a coastal community highly vulnerable to flooding and other hazards. Using a descriptive-survey research design, data were collected from MDRRMO personnel, barangay officials, and community members through structured questionnaires. Statistical analyses, including the Kruskal–Wallis test and Pearson correlation, were employed to determine differences in perceptions and the relationship between resource adequacy and disaster response. Findings revealed that disaster response in Binmaley is generally effective, with emergency supplies and rescue materials assessed as adequate. There was no significant difference in perceptions among stakeholders and no significant relationship between resource adequacy and disaster response effectiveness. Problems encountered during disaster response were generally perceived as not serious. The study recommends strengthening training, coordination, and resource management to further enhance disaster preparedness and response.

KEYWORDS: *Disaster Response, Resource Adequacy, Emergency Preparedness, Binmaley, Pangasinan, MDRRMO*

INTRODUCTION

Disasters pose significant risks to communities, particularly in vulnerable coastal areas such as the Municipality of Binmaley, Pangasinan. Effective disaster response relies on adequate resources, trained personnel, and strong coordination among agencies and stakeholders. In the Philippines, disaster risk reduction and management is institutionalized through Republic Act 10121, which emphasizes preparedness, coordination, and community participation.

Despite these frameworks, challenges persist in terms of resource allocation, responder capacity, and operational efficiency. Previous studies highlight that effective disaster response is not solely dependent on the availability of resources but also on coordination, communication, and preparedness mechanisms.

This study aimed to assess the adequacy of emergency supplies and evaluate disaster response effectiveness in Binmaley, Pangasinan. It also examined differences in perception among stakeholders and the relationship between resource adequacy and disaster response, as well as the problems encountered during disaster operations.

Methodology

This study utilized a descriptive-survey research design to assess disaster response and resource adequacy. Respondents included MDRRMO personnel, barangay officials, and community members in the Municipality of Binmaley, Pangasinan.

Data were gathered using structured questionnaires focusing on the adequacy of emergency supplies, effectiveness of disaster response across pre-disaster, during-disaster, and post-disaster phases, and the problems encountered during disaster response.

Statistical tools used in the study included the Kruskal–Wallis test to determine differences in perceptions among respondent groups and the Pearson product–moment correlation to examine the relationship between resource adequacy and disaster response. Descriptive statistics were used to analyze the degree of seriousness of problems encountered. The level of significance was set at 0.05.

RESULTS AND DISCUSSION

The findings of the study revealed that disaster response in the Municipality of Binmaley is generally effective. Respondents assessed emergency supplies and rescue materials as adequate, particularly in terms of communication tools, first aid kits, and standard rescue equipment. This level of adequacy supports timely and organized disaster response operations.

This finding is supported by recent studies emphasizing that resource availability contributes to operational efficiency but must be complemented by human capacity and system readiness. For instance, recent research highlighted that effective disaster response requires integration of logistics, workforce capability, and health systems rather than reliance on resources alone (Smith et al., 2024). Similarly, a scoping review found that resource adequacy is only one component of a broader disaster management system (Garcia & Lee, 2024).

In terms of disaster response implementation, the municipality demonstrated effectiveness across the three phases of disaster management—before, during, and after a disaster. Preparedness activities, response operations, and recovery efforts were perceived as coordinated and systematic among MDRRMO, barangay officials, and other agencies.

This result aligns with recent findings that coordination and structured response systems are critical determinants of disaster response effectiveness. A recent study emphasized that coordination improves resource allocation and reduces inefficiencies during emergencies (Owino et al., 2024). Likewise, research in the Philippine context highlighted that strong coordination and communication systems significantly enhance disaster preparedness and response efficiency (Reyes & Santos, 2025).

The analysis further revealed that there was no significant difference in the perceptions of MDRRMO personnel, barangay officials, and community members regarding disaster response. This indicates a shared understanding among stakeholders, reflecting consistency in disaster management implementation and communication.

This finding is supported by literature emphasizing that shared knowledge and stakeholder alignment are key indicators of effective disaster governance. A recent study found that disaster leadership training improves collaboration and aligns stakeholder perspectives (Ahmed et al., 2025). Similarly, another study reported that continuous training and engagement promote uniform understanding and coordinated response among stakeholders (Lopez et al., 2025).

Moreover, the results showed that there was no significant relationship between the adequacy of emergency supplies and disaster response effectiveness. This suggests that while resources are necessary, they are not the sole determinants of effective disaster response.

This finding is corroborated by studies emphasizing that training, leadership, and coordination are more influential than resource availability alone. A 2024 experimental study demonstrated that disaster preparedness training significantly improves response effectiveness regardless of resource levels (Kim & Park, 2024). In addition, a quasi-experimental study found that preparedness is more strongly associated with knowledge and training than with resource availability (Alvarez et al., 2024).

With regard to the problems encountered during disaster response, respondents generally perceived them as not serious. Identified issues such as lack of disaster drills, limited rescue equipment, and gaps in information dissemination were present but did not significantly hinder operations.

This result is consistent with literature indicating that minor operational gaps are common but manageable in functioning disaster systems. A recent review found that communication and training gaps exist but do not necessarily affect overall disaster response effectiveness when coordination mechanisms are strong (Reyes & Santos, 2025). Furthermore, studies show that regular drills and training programs help mitigate these issues and sustain operational efficiency (Lopez et al., 2025).

Overall, the findings highlight that disaster response effectiveness in Binmaley is driven not only by resource adequacy but also by coordination, training, communication, and stakeholder participation. Contemporary research supports the view that disaster resilience is achieved through a holistic and integrated approach, where human capacity and governance are as important as material resources.

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