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DELA PAZ FIRE AND RESCUE VOLUNTEER FIRE BRIGADE: AN ASSESSMENT

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ABSTRACT

The study evaluated the training and operational preparedness of the Dela Paz Fire and Rescue Volunteer Fire Brigade (DPFRVFB) in Pasig City, given rising fire risks in densely populated urban areas. Using a mixed-methods approach—surveys of 35 respondents and interviews with 10 stakeholders—the research assessed readiness across eight key operational domains, including equipment use, fire suppression, rescue procedures, and emergency medical response. Statistical analysis (Kruskal-Wallis test) showed significant differences in perceptions of preparedness among Barangay officials, BFP personnel, and fire volunteers.

Qualitative findings revealed challenges such as limited access to fire-prone sites, civilian interference, insufficient protective gear, and poor communication systems. Although Barangay officials rated the brigade highly, volunteers themselves reported only moderate confidence, exposing a gap between perceived and actual readiness. The study concludes that while administrative support is strong, improvements in training, equipment, and coordination are necessary to strengthen the effectiveness of volunteer fire brigades.

KEYWORDS: *Dela Paz Fire and Rescue Volunteer Fire Brigade; Training; Preparedness; Challenges; Action Plan*

INTRODUCTION

Barangay Dela Paz in Pasig City has a population of 19,804 and continues to grow due to urbanization and its strategic location near major highways and neighboring cities. Its development contributes to the city's economy, but it also faces significant fire-related vulnerabilities, especially since many structures are made of wood. Protecting its 4,972 households from fire is a top priority.

Fire safety efforts involve both government and private sectors, with the Bureau of Fire Protection (BFP) emphasizing community participation and preparedness. However, response capability is limited: the nearest fire station is outside the barangay, BFP personnel are insufficient, and only 13 volunteers—some inactive—serve the community. Challenges such as inadequate training, manpower, and resources further weaken firefighting capacity.

International examples highlight the importance of strong volunteer systems. The first U.S. volunteer fire company, founded by Benjamin Franklin in 1736, grew effective due to proper equipment and adequate personnel. Historical figures like Molly Williams also show that firefighting is not bound by gender. Overall, a larger, well-trained volunteer force is essential to ensure safety and reliable fire protection in any community, including Barangay Dela Paz.

National Background

The March 1996 Ozone Disco fire in Quezon City is one of the deadliest fires in Philippine history, claiming 162 lives during a graduation celebration attended by about 350 people. The fire reportedly started in the ceiling above the DJ booth and spread quickly, worsened by an electrical failure. Many victims died not from the flames but from a stampede caused by panic, compounded by critical safety failures such as security guards mistakenly closing an exit and inward-opening doors that created a fatal bottleneck. The incident underscores the importance of strict fire-safety measures, proper exit design, and public awareness of emergency procedures to prevent similar tragedies.

Local Background

Barangay Dela Paz has experienced notable fire incidents in recent years. On June 28, 2022, a chemical and paint warehouse on F. Mariano Street caught fire, reaching the third alarm and requiring 19 fire trucks. Firefighters contained the blaze within about two hours, and no injuries occurred, thanks in part to the facility's firewall preventing the fire from spreading.

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Another incident occurred on November 20, 2018, when an LPG tank exploded inside a meat processing facility, also on F. Mariano Street. The explosion, triggered by a leak ignited by a nearby stove, caused the facility's ceiling to collapse and injured two workers, who were taken to Pasig City General Hospital. The fire reached the first alarm but was quickly extinguished by firefighters.

RELATED LITERATURE

Foreign Literature

Volunteer firefighters selflessly dedicate their time, safety, and even their own lives to protect their communities, without receiving any form of compensation (Brooms, 2024). These individuals serve as frontline advocates for fire prevention and risk their lives to save others. Beyond firefighting, they also act as emergency responders during natural disasters such as typhoons, floods, and large-scale emergencies, playing a vital role in safeguarding lives and property.

For the past few years, the volunteer fire service in the United States has seen a steady decline, prompting a deeper examination of the factors affecting both current and former volunteers' capacity to serve (Schultz, 2022). Many have stepped away from their roles due to personal and financial challenges. Additionally, the nature of the work, marked by occupational stress, exposure to traumatic events, and inhalation of toxic substances, places firefighters at increased risk for behavioral health issues and long-term physical ailments (Pennington et al., 2021).

Many Central European countries have centralized a significant portion of their public services, assigning fire safety and rescue responsibilities to national-level professional government agencies. While policy emphasizes a centralized professional structure, the volunteer firefighting movement has steadily grown in significance. (Molnár, 2024).

In many countries around the world, fire brigades are primarily composed of volunteers (Freise & Walter, 2024). These volunteers often reside within the communities they serve, making them the first to respond during emergencies. While their involvement is partly driven by legal responsibilities, it also stems from the shared values and a strong sense of duty within the firefighting community (Wrona, 2020).

Local Literature

The Philippines is among the most fire-prone countries in Asia, experiencing significant losses each year due to fire-related disasters (Kurata et al., 2023). The nation's extreme heat and prolonged dry spells heighten the risk of ignition, which explains the widespread presence of fire volunteers in nearly every barrio. In recent years, fire incidents have risen considerably, threatening lives, inflicting economic setbacks, and damaging the environment (Sabalosa, 2024). In highly urbanized areas such as Metro Manila, the Bureau of Fire Protection (BFP) has received additional support from fire volunteer brigades formed by civic organizations. Given the country's elevated heat index and overall fire vulnerability, the role of fire volunteers remains critical in protecting communities and strengthening local emergency response.

In light of this vulnerability, the Philippines continues to face numerous challenges in the prevention and suppression of fire incidents, particularly in densely populated urban areas and informal settlements. Contributing factors include inadequate access to firefighting resources, outdated infrastructure, high population density, and the widespread use of combustible building materials. Compounded by limited public awareness of fire safety, budget constraints, and the uneven distribution of firefighting personnel across regions, these issues significantly hinder the country's ability to respond swiftly and effectively to fire emergencies.

In our country, many houses are constructed using lightweight, combustible materials, making them highly vulnerable when fires occur. According to the United Nations Office for Disaster Risk Reduction, informal settlements face an even greater risk due to high population density and limited options for safe, durable construction, often leaving residents surrounded by flammable materials (Dejillas & Somera, 2023). As a result, informal settler communities are among the most susceptible to fire-related disasters.

One of the persistent challenges faced by the Bureau of Fire Protection (BFP) is the absence of proper fire zoning in several residential areas. Fire zoning, a fundamental aspect of urban planning, is designed to reduce the risk of fire spreading within communities. Although the National Building Code of the Philippines mandates fire zoning (Dejillas & Somera, 2023), compliance remains inconsistent, particularly in densely populated areas like Metro Manila, where many homes lack firewalls. Strict enforcement of fire zoning regulations is crucial to safeguard lives and property.

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Synthesis of the Related Literature

The rapid spread of fires is often fueled by flammable construction materials—such as wood, paper, and chemicals—as well as the lack of firewalls and poor safety standards in many Metro Manila homes, especially in informal settlements. These conditions, combined with inadequate manpower, limited training, and scarce resources, significantly weaken fire suppression efforts.

In contrast, many other countries have more advanced volunteer firefighting programs. Their volunteers are well-trained, well-equipped, and supported by strong government funding and modern technology, allowing them to respond effectively to large-scale incidents like wildfires.

Despite challenges, volunteer firefighters remain vital both locally and internationally. In the Philippines, barangay-level volunteers are often the first responders, providing immediate assistance while official BFP units may face delayed arrival due to distance. Their service is unpaid but driven by dedication to community safety. Strengthening support for these volunteers is crucial, as their presence greatly reduces the risk of fires escalating into major disasters.

RELATED STUDIES

Foreign Studies

Firefighting and disaster response have been integral parts of human history, with fire incidents remaining common both in the past and in the present (Kyoko Ito-Morales, 2024). As communities grow and the demand for emergency services rises, the need for volunteer firefighters becomes increasingly urgent (Miller, 2021). Population growth naturally contributes to a heightened risk of fire outbreaks, making it essential to expand the volunteer force accordingly. Firefighters also face significant health risks, not only from toxic substances but also from biological agents encountered in stations and during emergency responses (Sanyang et al., 2024). To address these hazards, firefighting units must be equipped with appropriate protective gear against chemical, biological, and other dangerous exposures. Compounding these risks, data show that firefighters are more likely to be injured during fireground operations than in any other duty (Campbell & Hall, 2023). Despite rigorous training, injuries remain a constant threat due to the high-pressure nature of firefighting. Given the urgency that fire incidents demand, swift action is required, often under dangerous and unpredictable conditions. In this context, fire volunteer development programs are vital for reducing fire severity and minimizing losses (Setiady, 2023).

The role of fire volunteers, therefore, is far from minor, it is fundamental. These individuals often serve as the first line of defense, especially in rural and underserved areas where they are the nearest responders. Without their immediate action, fires could spread more rapidly, leading to greater destruction. The quality of life for volunteer firefighters is also critical, as their responsibilities demand both physical endurance and emotional strength, often placing them in life-threatening situations (Lopes et al., 2022). Their commitment underscores the necessity of ensuring they are physically fit, mentally prepared, and adequately supported.

Globally, volunteer firefighters are essential complements to professional firefighting services. Many countries rely on these volunteers to enhance the flexibility and effectiveness of emergency response systems (Liu et al., 2021). Often filling the “second chair,” fire volunteers, despite occasional shortages in tools and resources, are among the most active during emergencies. Australia, for example, has highlighted the vital role of volunteer firefighters during large-scale disasters, prompting national conversations about how to better support those on the front lines (Smith et al., 2022). These volunteers extend their service beyond firefighting by participating in rescue missions during a range of emergencies, from natural disasters to humanitarian crises.

Local Studies

Rising temperatures across the Philippines have heightened the risk of residential and forest fires. Even rainforests, once considered fire-resistant, are now increasingly vulnerable. These uncontrolled fires signal a shift in environmental dynamics, driven by the complex interplay of human activity and ecological change in the Anthropocene era (Carmenta et al., 2021).

In response, institutions, particularly those in the healthcare sector, are becoming more conscious of the need to enhance fire safety protocols. Healthcare facilities must rigorously implement fire prevention regulations and ensure the availability of essential firefighting equipment like extinguishers (Salleh et al., 2020). Likewise, both public and private establishments must prioritize fire risk reduction to safeguard lives and infrastructure.

The nation's firefighters face daily challenges, responding not only to fires but also to natural and man-made disasters (Urriza, 2023). For them, responding to emergencies is a regular part of life, yet the risks are ever-present. While disaster risk reduction strategies are essential due to the unpredictability of such events, effective post-disaster response is equally critical. A timely and well-coordinated

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response can save lives and minimize long-term damage (Montefalcon et al., 2021). Unfortunately, in high-risk areas like urban shanties, fire incidents remain frequent and devastating yet often receive little attention or resolution from authorities (Adiba, 2023)

Synthesis of the Related Studies

Worsening climate conditions and rising temperatures in the Philippines have increased fire incidents, particularly in high-risk areas like informal settlements and forested zones. This has pushed both public and private sectors to prioritize fire safety protocols and improve access to firefighting equipment. However, challenges such as weak infrastructure, poor law enforcement, and unprepared households continue to heighten fire risks.

Theoretical Framework

The theoretical framework of this study is anchored on three major theories that support the assessment of training and preparedness of volunteer firefighters, namely as Kolb's Experiential Learning Theory, Kirkpatrick's Four-Level Training Evaluation Model, and the Preparedness Theory of Emergency Management. These theories collectively provide a foundation for understanding how training programs shape the skills and readiness of the Dela Paz Fire and Rescue Volunteer Fire Brigade in responding effectively to fire emergencies.

Kolb's Experiential Learning Theory

Kolb's Experiential Learning Theory states that people learn effectively by engaging in real experiences, reflecting on them, forming concepts, and applying what they learned. For fire volunteers, this means that hands-on training—such as drills, simulations, and real emergency responses—is essential. These practical activities help them connect theory to real situations, improving their skills, preparedness, and decision-making during fire incidents. The theory highlights why experience-based training is crucial for developing competent volunteer firefighters.

Kirkpatrick's Four-Level Training Evaluation Model

Kirkpatrick's Four-Level Training Evaluation Model assesses training effectiveness through four stages: Reaction, Learning, Behavior, and Results. It evaluates participants' satisfaction, knowledge gained, changes in behavior, and overall impact on organizational performance. For the Dela Paz Fire and Rescue Volunteer Fire Brigade, this model helps determine whether training programs improve volunteers' performance in real fire emergencies, measuring both immediate benefits and long-term effects on skills, behavior, and the brigade's operational efficiency.

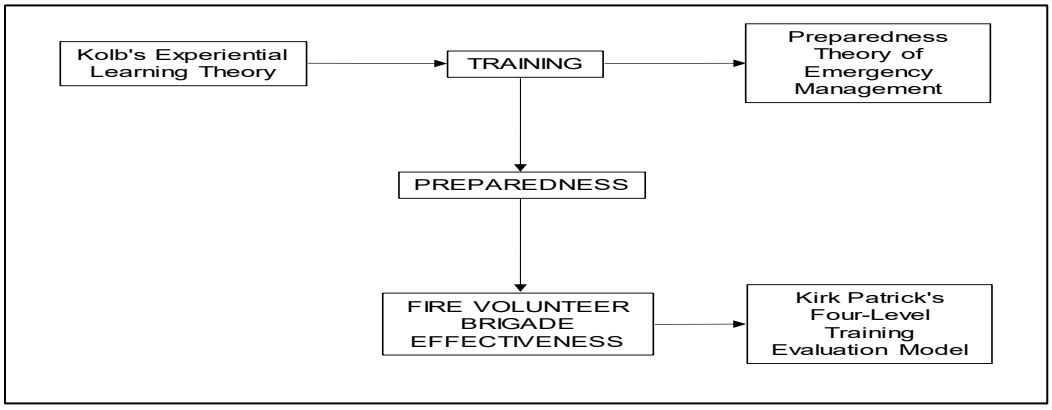
Preparedness Theory of Emergency Management

The Preparedness Theory of Emergency Management views preparedness as a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and improving response capabilities. It emphasizes sustained efforts to ensure readiness for disasters. In the context of the Dela Paz Fire and Rescue Volunteer Fire Brigade, this theory provides a framework to assess whether the brigade has sufficient resources, regular drills, coordination systems, and comprehensive plans. Applying this theory helps identify strengths and gaps in preparedness, ensuring that training translates into effective performance during real fire emergencies.

Conceptual Framework

Figure 1

Conceptual Framework of the Study on Training and Preparedness Assessment of the DPFRVFB



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Significance of the Study

The study aims to identify gaps in firefighting capabilities in Barangay Dela Paz, with implications for local communities, government agencies, and volunteer firefighters. By evaluating the effectiveness and challenges faced by fire volunteers, it seeks to improve emergency response, enhance community safety, and reduce the impact of fires and other emergencies.

The research also highlights factors affecting volunteer motivation, retention, and operational efficiency, providing insights for programs that improve morale, training, and recognition. Additionally, the findings can guide local government policies on resource allocation, training, and standard protocols, ensuring that volunteer brigades are well-equipped and prepared to respond effectively to emergencies.

Definition of Terms

- **BFP** - Bureau of Fire Protection
- **DPFRVFB** – Dela Paz Fire and Rescue Volunteer Fire Brigade
- **Fire Brigade** - an organization responsible for putting out fires
- **Catastrophic** - involving or causing sudden great damage or suffering
- **Fire Wall** - fire-resistant barrier used to prevent the spread of fire
- **Stampede** - an occasion when many people suddenly move quickly and in an uncontrolled manner, usually in the same direction at the same time.
- **Volunteer** - a person who freely offers to take part in or undertake a task.
- **Informal Settlers** - individuals and groups who establish their principal residence in mostly urban areas and types of dwellings considered illegal
- **Light Materials** - materials that have significantly lower weight and can be easily burned like wood and paper.
- **Fire Prevention Month** - allotted time of the year to discuss and raise awareness about the causes, hazards, and dangers of fire. In the Philippines, March is observed as Fire Prevention Month.
- **Wildfire** - an unplanned, uncontrolled and unpredictable fire in an area of combustible vegetation.

Statement of the Problem

1. What is the level of training of Dela Paz Fire and Rescue Volunteer Fire Brigade (DPFRVFB) for dealing with complex fire incidents and rescue operations in terms of:
    1.1. Firefighting tools and equipment operation
    1.2. Fire hose and nozzle management
    1.3. Portable fire extinguisher application
    1.4. Ladder use
    1.5. Personal protective equipment
    1.6. Emergency medical procedures
    1.7. Rescue operations
    1.8. Fire suppression and control

2. Is there a significant difference in the level of training of DPFRVFB based on the perspectives of the three groups of respondents (Barangay Council, BFP Personnel, Volunteer Fire Brigade)?

3. What is the level of preparedness of Dela Paz Fire and Rescue Volunteer Fire Brigade (DPFRVFB) for dealing with complex fire incidents and rescue operations in terms of:
    3.1. Firefighting tools and equipment operation
    3.2. Fire hose and nozzle management
    3.3. Portable fire extinguisher application
    3.4. Ladder use
    3.5. Personal protective equipment
    3.6. Emergency medical procedures
    3.7. Rescue operations
    3.8. Fire suppression and control
4. Is there a significant difference in the level of preparedness of DPFRVFB based on the perspectives of the three groups of respondents (Barangay Council, BFP Personnel, Volunteer Fire Brigade)?
5. What are the challenges encountered by the Dela Paz Fire and Rescue Volunteer Fire Brigade (DPFRVFB)?
6. What actions can be carried out to improve the Dela Paz Fire and Rescue Volunteer Fire Brigade (DPFRVFB)?

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METHODOLOGY

Research Design

The study employed a mixed-method research design, combining quantitative and qualitative approaches to gain a comprehensive understanding of the research problem. The quantitative component used survey questionnaires targeting Barangay Council members, Bureau of Fire Protection (BFP) personnel, and fire brigade volunteers. The qualitative component involved in-depth interviews with BFP personnel, selected volunteers, and fire victims from Barangay Dela Paz. This approach allowed the study to collect both numerical data and rich, descriptive insights, using surveys and audio-recorded interviews.

Research Method

The study selected respondents with relevant knowledge of fire rescue volunteers. Two data collection instruments were used: printed questionnaires and face-to-face interviews. A total of 35 respondents received questionnaires—8 Barangay Council members, 13 fire volunteers, and 14 BFP personnel—which were administered personally with clear instructions and confidentiality assurances. For qualitative data, in-depth interviews were conducted with 3 BFP personnel, 2 fire volunteers, and 5 fire victims to explore their experiences, motivations, and perspectives on fire volunteerism. Interviews were audio-recorded to ensure accurate capture of responses.

Population of the Study

Participants were selected based on their knowledge and involvement with the Fire and Rescue Volunteer Fire Brigade using purposive sampling, with selection bias accounted for in analysis. Key participants included: the Barangay Captain and councilors, who have comprehensive knowledge of barangay activities; the head of the Fire Rescue Volunteer Fire Brigade and its personnel, with direct experience in firefighting operations; BFP personnel supervising the volunteer brigade; and fire victims or witnesses, who provided firsthand perspectives on fire incidents.

Data Gathering Tools

The study used survey questionnaires and a semi-structured interview guide as primary data collection tools. The interview guide, developed based on the research objectives, featured open-ended questions to elicit detailed responses about fire volunteers in the barangay. Printed questionnaires were distributed to all selected respondents. Collected data were tested for validity and reliability using appropriate statistical methods, ensuring comprehensive and accurate research results.

Data Gathering Procedure

Before data collection, the researcher obtained formal permission from Barangay Dela Paz and the BFP Manggahan Sub-Station through letters signed by the research adviser. Informed Consent Forms (ICFs) were provided to participants, outlining the study's background, purpose, procedures, potential risks, confidentiality measures, and participants' rights. Participants, all of legal age, were briefed on the study and indicated voluntary participation by signing the ICFs.

Treatment of the Data

The study used thematic analysis to interpret qualitative data from in-depth interviews with the Fire and Rescue Volunteer Fire Brigade of Barangay Dela Paz. Interviews were transcribed verbatim to ensure accuracy and then organized into a framework of initial themes and categories for systematic examination. Quantitative survey responses were analyzed using descriptive statistics, including frequency and percentage distributions, while the Kruskal-Wallis H-test was applied to assess perceptual differences among the three respondent groups.

Ethical Considerations

The study ensured strong ethical standards during its examination of the Dela Paz Fire and Rescue Volunteers Fire Brigade. All participants completed a printed informed consent form before data collection, which involved survey questionnaires and audio recordings. No minors, persons deprived of liberty, or individuals with disabilities were included. Participation was voluntary, and respondents were fully informed about the study's purpose, procedures, risks, and their right to withdraw at any time. Confidentiality was strictly upheld by anonymizing personal information and securely storing all data, with access limited solely to the researcher.

Dissemination of the Research Outcome

A key step in applying the study's findings on the Dela Paz Fire and Rescue Volunteer Fire Brigade is the dissemination of results to major stakeholders, including the Barangay Dela Paz administration, the volunteer brigade itself, and the BFP along with other relevant agencies. Sharing these findings aims to improve the brigade's capabilities, strengthen community safety awareness, and enhance preparedness. Ultimately, the dissemination of this research may contribute to a more efficient local fire prevention system and reinforce the barangay's overall emergency readiness.

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RESULTS AND DISCUSSION

This chapter presents and analyzes the results of the assessment of the Dela Paz Fire and Rescue Volunteer Fire Brigade's (DPFRVFB) training and preparedness in responding to complex fire and rescue incidents. It evaluates the brigade's capabilities based on input from the Barangay Council, Bureau of Fire Protection (BFP) personnel, and the volunteers themselves. The chapter first examines the volunteers' training across eight operational areas, comparing perceptions among the three groups to determine significant differences. It then assesses the brigade's preparedness using the same criteria, again identifying variations in stakeholder evaluations. Alongside quantitative data, the chapter incorporates qualitative insights by outlining key operational challenges gathered through open-ended responses and interviews. The chapter concludes with proposed actions and recommendations aimed at strengthening the brigade's capacity, efficiency, and overall effectiveness in community fire and rescue operations.

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

This section highlights the key findings of the study assessing the training and preparedness of the Dela Paz Fire and Rescue Volunteer Fire Brigade (DPFRVFB) in handling complex fire and rescue situations. Based on insights from the Barangay Council, BFP personnel, and the volunteers, the study found notable differences in how each group perceived the brigade's training and readiness. It also identified several operational challenges that affect the brigade's overall performance.

Conclusions

This section presents conclusions for the key findings from the study assessing the training and preparedness of the Dela Paz Fire and Rescue Volunteer Fire Brigade (DPFRVFB) in responding to complex fire incidents and rescue operations, as well as the operational challenges faced by the brigade.

Recommendations

This section presents recommendations for the key findings and conclusions from the study assessing the training and preparedness of the Dela Paz Fire and Rescue Volunteer Fire Brigade (DPFRVFB) in responding to complex fire incidents and rescue operations, as well as the operational challenges faced by the brigade. These recommendations are aimed at enhancing the effectiveness, safety, and capability of the volunteer fire brigade in serving their community during emergencies.

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