

Research Paper



Evaluation of fire safety measures in Barangay San Roque, Municipality of Maco: basis for intervention scheme

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Article Info	ABSTRACT
Article History: Received: 06 November 2023 Revised: 12 January 2024 Accepted: 20 January 2024 Published: 04 March 2024 Keywords: Fire Safety Measures Intervention Scheme Philippines Descriptive Research Fire Awareness Residential Safety 	Background: Fire safety stays a key public health issue in residential communities, especially in barangay-level areas where awareness and readiness can be a bit uneven. Barangay San Roque, Maco is the community point of reference for this assessment, as such. Objective: This study aims to gauge the level of fire safety measures among residents of Barangay San Roque, Maco, with attention on community safety procedures and awareness, more or less. Methods: A non-experimental descriptive design was used. Data were obtained via a structured questionnaire, researcher devised, which was administered directly to residents. The tool was created to document responses about fire safety practices, barangay procedures, and the general awareness level shown by the participants. Results: The results showed a high level of fire safety measures among residents in Barangay San Roque, Maco. This pattern appeared across two main domains: community safety procedures and fire safety awareness. In general, residents displayed sufficient understanding and day to day alignment with fire prevention steps, plus community response protocols. Conclusions: Overall, the fire safety preparedness in Barangay San Roque, Maco can be considered commendable, because it suggests a community with a solid baseline grasp of fire safety measures. Still, some specific parts were flagged as needing improvement. In other words, even if the current readiness level is high, there are still a few gaps that should be addressed.

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1. INTRODUCTION

Fire safety measures compose various components that include all issues pertaining to regulating fire hazards. With fast technological development all over the globe, fire safety measures have also changed relative to the severity and versatility. Nevertheless, fire incidence remains to be the most common hazard [1].

Given that fires are a common hazard [2], [3], fire safety measures are very valuable for fire fighters. Such measures prepare them to respond to any incidence when a fire breaks out. Ultimately leading to community safe from fires. Fire safety measures are equally beneficial to the community. Community awareness of fire safety measures allows members of the community in responding to fire incidences. By doing so, the community actively lessens fire incidents [4].

The study was initiated to assess the fire safety measures in barangay San Roque of Maco Davao de Oro. Results of the study will provide insights relative to fire safety measures. Specifically, the fire safety measures based on the given indicators: Community Safety, Procedures and Awareness [5], [6], [7]. The results will be used as the basis for an interventions scheme.

2. RELATED WORK

- **Relevance of Fire Safety:** Fires have long been dangerous which leads injuries, property loss and even death. Thus, various studies were conducted relative to the importance of fire safety knowledge [8], [9], [10]. As such, communities should be equipped with the adequate knowledge to prevent and respond to fire [11], [12], [13], [14], [15]. Despite the established importance, there are communities that do not possess adequate fire safety knowledge. As such, these communities are at a greater risk of being involved with fire. This risk further establishes the need for trainings in fire safety [12].
- **Behaviour towards Fire Safety:** Explanations regarding peoples' behavior in a fire have been explored. In the lens of "naturalistic decision making" theory, in dire situations people do not make decisions but instead choose a course of action that is appropriate. This will also depend on the seriousness of the circumstance [16]. Thus, the decision of people is reliant on their ability to process information that are observed in the environment.

People even have delayed recognition of because of the concept of avoidance, wherein people feel protected psychologically by denying undesirable circumstance [17]. As such, fire cues like smoke may not be recognized because of psychological denial. Such a denial will lead to a greater risk of casualty. By being provided with adequate fire safety training, these same people will better chances of recognizing important fire cues and respond appropriately to avoid serious casualties [18].

3. METHODOLOGY

The research employed a non-experimental descriptive method to collect and analyze data. Descriptive studies serve the purpose of observing, describing, and documenting situations as they naturally occur [5]. In this context, the researchers aimed to assess the status of fire safety measures in Barangay San Roque by utilizing the gathered responses to formulate an intervention scheme. A total of 324 residing in Barangay San Roque was selected as participants. This is compliant with the suggested sample for studies that are quantitative by nature [7]. Like other studies, this study went beyond the acceptable sample size [8], [11]. Statistical tools such as the mean were applied to quantify the level of fire safety measures in terms of community safety, procedures, and awareness. The results aim to provide a comprehensive understanding of the current state of fire safety within Barangay San Roque, serving as a foundation for subsequent discussions and recommendations.

4. RESULTS AND DISCUSSION

Table 1 displays the detailed evaluation of fire safety measures in Barangay San Roque, Maco. The overall mean of 4.37, characterized as "Very High," signifies a robust commitment to fire safety within the community. Community Safety achieved the highest mean at 4.42, followed closely by Awareness at 4.36, both falling under the "Very High" category. Even the lowest-scoring indicator, Procedures, obtained a mean of 4.33, indicating a consistent and very high adherence to established safety steps.

Table 1. Level of Fire Safety Measures

Indicators	Mean	Standard Deviation	Description
Community Safety	4.42	0.38	Very High
Procedures	4.33	0.39	Very High
Awareness	4.36	0.36	Very High
Overall	4.37	0.30	Very High

The high mean values across all indicators underscore the community's commitment to fire safety, with residents showing a proactive approach in understanding, implementing, and raising awareness about safety measures. These findings align with previous research emphasizing the importance of community-wide awareness and active participation in preventing fire incidents [6]. The residents' keen attention to community safety, procedures, and awareness reflects a positive and engaged approach toward fire safety measures, showcasing the effectiveness of educational programs and interventions.

5. CONCLUSION

The study provided a detailed breakdown that offer insights into specific aspects of fire safety, providing a comprehensive view of the community's strengths and areas for potential improvement. The consistently high scores affirm the effectiveness of existing fire safety initiatives, emphasizing the community's resilience and commitment to maintaining a safe living environment.

5.1. Recommendation

The examination of fire safety measures in Barangay San Roque, Maco, reveals significant insights, prompting recommendations aimed at fortifying and improving the existing safety measures.

- Maintain the observed very high level of fire safety measures.
- Implement an intervention scheme to enhance community engagement and awareness.
- Emphasize the significance of community unity for effective fire safety.
- Keep clear procedures for people on what to do during a fire accident.

Moreover, the researchers developed an intervention scheme which can help the residents of Barangay San Roque in sustaining their fire safety measures. The intervention is presented below using a matrix of activities. The purpose of the matrix is to provide preliminary guidelines for the creation of a consistent and proper dissemination method of performing Fire Safety Measures plan in each indicator to come up with potential opportunities while managing potential adverse effects, as well as the important decision aids in management risk.

Table 2. Fire Safety Action Plan Matrix for Barangay San Roque, Maco

Key Result Areas	Objectives	Strategies/Activities	Expected Outcome	Persons Involved	Time Frame
Community Safety	To monitor places for the safety of the community.	Seminar for fire prevention utilized to each Barangays.	The residents can utilize to address the identified issue concerning.	BFP Barangay Officials Residents	3 days

Procedures	To communicates BFP for the fire safety procedures.	BFP conducts fire drill that will help each purok leader to be knowledgeable about the procedure if there's a fire emergency.	The Barangay and BFP will bolster a system of coordination and cooperation among the citizenry, local executives fire safety measures.	Barangay Officials Residents BFP	2 days
Awareness	To ensures the safety of the citizens in their area of responsibility through implementing awareness.	Fire safety awareness training and each household must have representative in gaining knowledge and awareness.	The residents are being mindful to the things that they are doing especially for their safety and the safety of the community.	Barangay Officials Residents BFP	3 days

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Author Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Earl Jones G. Muico	✓	✓	✓	✓		✓		✓	✓	✓	✓			
Jaddua Karim Canalija	✓	✓	✓			✓	✓	✓			✓	✓	✓	
Duman Ronald		✓	✓	✓		✓	✓	✓	✓			✓		✓
Jade Lucero	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓

C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition

Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Informed Consent

All participants were informed about the purpose of the study, and their voluntary consent was obtained prior to data collection.

Ethical Approval

Not Applicable.

Data Availability

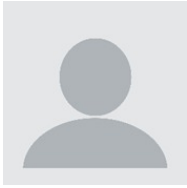
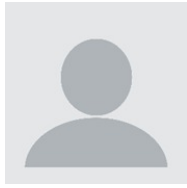
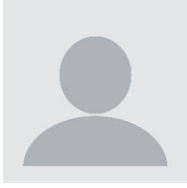
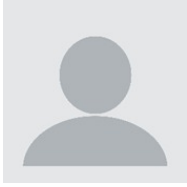
The data that support the findings of this study are available from the corresponding author upon reasonable request.

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