

Challenges Encountered and Insights of the Bureau of Fire Protection Personnel Towards Responding Fire Incident

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ABSTRACT

In a fire incident, fire fighters struggle too much for the safety of our communities. This study explored the challenges encountered by the BFP of Ozamiz City in responding fire incidents. It utilized the phenomenological research design. It was participated by the Bureau of Fire Protection in Ozamiz City, Misamis Occidental. Interview responses were analyzed using Moussakas' Transcendental phenomenological reduction. This study generated five themes: (1) Scarcity in Responding Fire Incident, (2) An Arduous work that Demands Physical and Psychological Strength, (3) Frustration in the Work, (4) Collaboration and Cooperation in Fire Safety and Prevention, (5) Serving the People. In this study, the researcher analyzed the data using the narrative and phenomenology methods of Moustakas for the gathering of information through open-ended and conversational communication. As a result, most of the participants have different challenges encountered in responding fire incident. These challenges made an impact physically and mentally which is extremely stressful and draining during a fire incident. On the other hand, the participants have learned how to maintain active connection with the public, promote fire safety, and raise the number of force multipliers. Further, the BFP should have the full support of the community when an emergency occurs. Lastly, the participants have sensible of their actions. To mitigate firefighter life-safety concerns and achieve successfully fireground outcomes, it is critically important for firefighters to have the necessary preparedness capabilities to respond. Firefighter preparedness consists of technical and contextual knowledge, specialized training, and firefighting experience.

Keywords: Challenges, Community, Difficulties, Fire fighter, Fire incidents.

1. Introduction

Fire departments respond to numerous cases to save lives and protect valued materials while countless obstacles make the task difficult and dangerous for both firefighters and those in need of rescue (Veszprémi, & Pántya, 2021). The cost of fire incidents is obviously enormous. It results in pains and death of victims, waste of time, money and materials and damage to equipment and structures (Adegboro & Ojoye, 2019). For the past years, fire incidents have become a big problem for the Philippines, since it affects the socioeconomic growth of the country (Asor, Lerios, Sapin, Padallan, & Buama, 2021). Firefighting operations in the Philippines take too much time to finish due to the minimal resources and low upgrades in technologies in the bureau of fire protection (BFP); the poor performance results to increase the damage that makes it close to impossible to save all of the lives affected by the fire incident (Zadeh, Abdulwakil, Amar, Durante, & Santos, 2021).

Between 2011 and 2019, more than 1,300 fire incidents occurred in the Philippines, killing thousands of people and damaging more than Php 4 billion of properties (Villa, & Ceballos, 2021). The delay in the fire department arriving at the location of the fire was due to the obstacles faced, for example, delays in information about the fire from the community, lack of public awareness of giving priority to fire engines and supporting facilities like some fire engines whose age was of concern enough to affect firefighting services (Kahanji, Walls & Cicione 2019).

The fire-fighting capacity of any fire station should conform to the national and international standards. The location and the service area of the fire station, are important issues to reduce fire risk. Along with these spatial

requirements, a number of non-spatial issues, such as staff, equipment, vehicle, function, organization and technology etc. are also related with efficient fire services (Tishi & Islam 2019). Optimum level of staff in accordance with the population demand is also important in order to effectively perform fire extinguishing activities (Brzezińska, Bryant & Markowski, 2019).

To mitigate firefighter life-safety concerns and achieve successfully fireground outcomes, it is critically important for firefighters to have the necessary preparedness capabilities to respond. Firefighter preparedness consists of technical and environmental/contextual knowledge, specialized/focused training, and firefighter experience (Coulthard, 2018). Saving lives from fireground is the primary task in firefighting, in which the speed of effective search largely relies on the sufficient and instant information. When insufficient information situation follows firefighter tightly, the firefighter's life can be jeopardized (Hui, Wang, Chen, & Hung, 2018). Effective suppression response and rescue operations require efficient and advanced training. Equipped firefighter with the advancing information technology, such as IR, laser range-finder, camera, augmented reality and an unmanned aerial vehicle for acquiring more fireground information may be useful for firefighting task (Hui, Wang, Chen, Hung, 2018). Modern technologies provide improving of this training and drill and decrease expenses and price of a firefighter's teaching program (Hozjan, Kempna, & Smolka, 2020).

Moreover, adequate provisions of fire service facilities are essential to ensure sustainability through life safety, property protection, continuity of operations, environmental protection, and heritage conservation. With the aim to assess sustainable urbanization with the adequacy of fire service provision is essential to identify the substantial service gaps for up-gradation in the fire service facility (Singh, Sabnani, & Kapse, 2021). In Dhaka city, studies reveal that fire stations in their location are not capable of covering approximately half of its population and the fire fighting vehicles are not adequate for the extinguishing operation as per the requirements of a specific station coverage area. The most important challenges in the firefighting operation include traffic congestion with deficiencies in the roadway network and scarcity of water (Haque, 2019).

In China, one of the reasons firefighters arrive late is the severe traffic after a fire-spread starts. High-rise buildings are also a significant problem for the firefighters during operations. Since they cannot reach the top floors with their firefighting equipment, they are bound to use the building's installed firefighting equipment before reaching the highest floor affected by the fire. They also need to take the stairs since elevators may be inaccessible, and after they reach their target floor, the flames might spread everywhere and cause a disaster (Zadeh, Abdulwakil, Amar, Durante, & Santos, 2021). The city of Toronto is experiencing rapid growth in vertical settlement patterns with the construction of very tall high-rise residential buildings that are classified as super high-rise's by the Ontario Building Code. Due to their height and complexity, SHR buildings present challenges for firefighters during firefighting operations (Coulthard, 2018). In the Philippines take too much time to finish due to the minimal resources and low upgrades in technologies in the bureau of fire protection (BFP); the poor performance results to increase the damage that makes it close to impossible to save all of the lives affected by the fire flames (Zadeh, Abdulwakil, Amar, Durante, & Santos, 2021). Despite the Bureau of Fire Protection fire management system in the Philippines, fire incidents have been a critical issue in the country, affecting various individuals (Moore, 2019).

It is evident that there were several published literatures pertaining to fire incidents, fire officers and the like. However, a study in unveiling the difficulties encountered by the Bureau of Fire Protection (BFP) and helps to address the current equipment and the quality services needed in order to maximize future incidents is under represented in the literature.

2. Materials and Methods

The qualitative research method was applied in this study which focuses on obtaining by open-ended and conversational communication. The research was done through purposive and phenomenology qualitative research method. Phenomenological research seeks to understand and describe the universal essence of a phenomenon. The approach investigates the everyday experiences of human beings while suspending the researchers' preconceived assumptions about the phenomenon. The researcher gathered data through interviews that was conducted towards the BFP personnel of Ozamiz City. Even though there is a pandemic due to Covid 19, the study was possibly done through face to face. This research was conducted in BFP Station located at Tinago, Ozamiz City, Misamis Occidental.

The research participants of this study were the (10) ten out of (38) thirty-eight BFP personnel of Ozamiz City Fire Station. Purposive and snowball method was used in identifying the participants and only those who met the following criteria were selected: age, civil status, length of service, enough experience and already have children. The study utilized researcher-made interview guide questions in uncovering the challenges encountered by the BFP personnel which is distributed into two parts. For part one, it consists of the participants profiles such as their age, civil status, length of service, and enough experience and have children. For part two, the study utilized researcher-made interview guide questions. The questions consisted of opening questions, core questions, and closing statements. Since the study utilized the transcendental phenology approach, the interview process used open-ended questions and narrative type of answers to solicit the insights of the BFP personnel on the challenges they encountered in responding fire incidents.

The data collection was done in order to obtain the information from the Bureau of Fire Protection Personnel's in Ozamiz City to needed for the study. The researchers make sure to follow the community safety protocols such as wearing facemask and face shield, social distancing and sanitizing in all aspects in their research. Before the conduct of the interview, the researcher asked permission from the College Dean to pursue the study and to conduct the interview through formal letter. Once approved by the Dean, the researcher asked permission from the City Fire Marshal of BFP Ozamiz City to allow the researchers to obtain information among his personnel. The researcher set an appointment to the identified participants of the BFP proposing the schedule of the interview. The researcher informed the respondents that the conversation was recorded and gave them an assurance that all their responses was kept with utmost confidentiality. After explaining the protocol guidelines, the researcher gave the participants' copy of the interview questions to help them recall their experiences. It was necessary to have a conducive atmosphere to interview with less noise coming from the vehicles or people.

During the interview, the researcher was mindful of the gestures and the words used to prevent distraction and uncomfortable situations. The use of face-to-face interviews through semi-structured, open-ended questions to

explore the views, understanding, and even beliefs of the participants to cultivate their lived experiences. As comprise key questions as a guide in interviews. The interview for every participant lasted approximately 10 to 20 minutes. Based on the responses, questions were used altered to foster more detailed and of answers. The researcher took notes at the interviews, made notes of the participant a behavior observed, and added the memos to their journal. Moreover, a voice recorder value used to ensure the details of what had transpired during the interviews. The purpose of the research was clearly explained to the BFP personnel before getting their full consent as participants. It was further explained that this research can cause no harm in anyway and that the respondents can withdraw anytime if felt threatened. Protection of life's privacy and confidentiality, such as keeping the names of those involved and not exposing them in public, was secured. Respect for the dignity of research participants was a priority. Generally, this research ensured that there was no deception or exaggeration about its aims and objectives.

In the conduct of this qualitative research, certain measures were first cleared and addressed particularly the selection and the conduct of the interviews to the participants. The researcher conformed to the ethical protocol set by the university. The researcher strictly observed the voluntary participation of all the participants. The interview was not conducted without their personal consent through allowing them to sign the informed consent form prepared by the researcher. Their refusal to participate does not involve any penalty or loss of benefits and their signed consent does not mean of waiving any legal claims, rights or remedies from this study. In regards to the participants' identity, the researcher applied the measure to promote anonymity and secrecy through not mentioning the names of my participants during the conduct of interview, instead the researcher addressed them with sir and ma'am. No names of the participants in any manner that were reflected in the results and manuscript of the study. Their attendance and signature in the informed consent were kept with utmost confidentiality and lock in the secured cabinet or locker until it needs to be deposited.

In the entire process of the study, the welfare of the participants was the priority of the researcher. Privacy and confidentiality were observed at all times, particularly name of the participants and other information unnecessary to the study. The researcher adhere the guidelines set by the Republic Act No. 10173 known as the "Data Privacy Act of 2012". Through these, the researcher can assure the privacy and confidentiality of the qualitative research. Further, informed consent to my participants prior to conduct any interviews was provided. This consent is free of technical terms to avoid miscommunication which give the participants a clear view of the benefits they may obtain and their contribution to the study. The researcher informed them to read thoroughly the statement and agreement in the informed consent. And for clarity, the researcher loudly read the information from the informed consent and explain the content in the local dialect or in language they can understand directly. After the participants sign the form, the respondents distribute the copy of the informed consent.

3. Results and Discussions

This part presented the different themes that were derived from the different responses of the participants of the study during the conduct of the interview. It is evident in the study that most of the participants were 30 to 52 years old and most of them had experience in fire prevention during their service in the BFP, and held higher positions.

Further, based on the responses of the participants of the study, there were five (5) themes identified such as: (1) Scarcity in Responding Fire Incident, (2) An Arduous work that Demands Physical and Psychological Strength, (3) Frustration in the Work, (4) Collaboration and Cooperation in Fire Safety and Prevention, (5) Serving the People.

Table 1. Profile of the Participants

Code Name	Age	Civil Status	Length of Service
P1	39	Married	8 years
P2	48	Married	15 years
P3	41	Married	10 years
P4	44	Married	11 years
P5	41	Married	9 years
P6	30	Married	5 years
P7	34	Married	5 years
P8	45	Married	12 years
P9	33	Single	10 years
P10	52	Married	29 years

3.1. Scarcity in Responding Fire Incident

Scarcity in terms of responding prior to and latter to a fire incident, is usually a big challenge and a hindrance for the Firefighters for them to be able to efficiently and effectively do their tasks due to the insufficient manpower, inadequate resources such as fire trucks, fire apparatus, personal protective equipment (PPE), etc. Scarcity, also known as severe shortage, is an economic term that refers to the gap between the availability of limited resources and people's theoretical needs for such resources (Cannon, 2019). These are evident in the results of the interview conducted.

Code Name	Responses
P2	“The shortage of manpower was one of the obstacles I faced when responding to a fire incident.”
P3	“Lack of firefighting apparatus, firetruck, limited supply of personal protective equipment (PPE) and limited number of fire hydrant are the challenges I’d encountered in responding fire incidents.”
P6	“Lack of firefighting equipment, negative perception of the community

	towards the fire fighters and areas especially in informal settlers that are poor in accessibility due to narrow and crowded streets/road.”
P7	“Lack of water supply, sometimes there is no fire hydrant available and the number of BFP personnel is only few.”
P8	“The challenges that I encountered in responding fire incident is that the lack of accessible hydrants and narrow roads and alleys.”

Considering the factors that affects the performance of the Fire fighters regarding responding matters, most of them will tend to do some alternative actions which sometimes lead to unproductive results. Alternatively, they will adjust to the organization's inadequate equipment, resulting in unproductive output (Kirubhashankar, 2020). The shortage of manpower was one of the obstacles faced by the BFP personnel and lack of firefighting apparatus, firetruck, limited supply of personal protective equipment (PPE) and limited number of fire hydrant are the challenges encountered in responding fire incidents (Cicione, 2019). And the negative perception of the community towards the fire fighters and areas especially in informal settlers that are poor in accessibility due to narrow and crowded streets/roads (Urban, 2022). This is one of the most common issues that the organization faces, and it has an impact on their performance when responding to fire incidents (Xanthopoulos, 2018).

3.2. An Arduous Work that Demands Physical and Psychological Strength

Arduous work is usually a big challenge for the participants since it demands physical and psychological strength which affects their performance in terms of responding. It is normal to be tired and lightheaded at work, but there are some tasks that require personnel to exert excessive effort, which may affect their physical and psychological strength when performing their duties, particularly when responding to fire incidents (Johnston, 2017). Firefighters are exposed to a wide range of occupational stressors due to the nature of their job. These are evident in the results of the interview conducted.

Code Name	Responses
P2	“These issues have an impact on my profession as a fire officer, which is extremely stressful and draining during a fire incident.”
P4	“Heat fatigue was one of the issues I faced while reacting to fires; I had heavy sweating and a quick pulse as a result of my body overheating. These difficulties affect me as a fire fighter responding to a fire situation since it causes me bodily stress and weak.”
P5	“In responding fire incidents are heat exhaustion, burns, physical and mental stress.”
P10	“These issues have an impact on my profession as a fire officer, which lead my emotional stress during a fire incident.”

Upon considering the factors, most of the respondents considered arduous work as a big impact on their performance since most of them can feel stressed, drained, exhausted, and weakened. Your body may become tired or weak during the course of your workday, which can have an impact on your performance (Rashid, 2020). Work-related stress is a growing problem around the world that affects not only the health and well-being of employees, but also the productivity of organizations (Haddon, 2018). Work-related stress arises where work demands of various types and combinations exceed the person's capacity and capability to cope (Liu, 2017). Work-related stress is the second most common compensated illness/injury. Work-related stress can be caused by various events. For example, a person might feel under pressure if the demands of their job (such as hours or responsibilities) are greater than they can comfortably manage (Ali, 2019).

The second identified theme implies that the firefighters in Ozamiz City are having difficulty and coping time due to arduous work which requires lots of their physical and mental strength. The said issue is a good identification that the factors which affected the performance of the firefighters due to arduous work can still be improved and cured by adding more personnel so that the workload can be evenly distributed and by providing new fire apparatus for their comfort during the operation.

3.3. Frustration in the Work and Profession

Frustration is usually felt by the firefighters in Ozamiz City. Frustration arises when you feel stuck, trapped, or unable to progress in some way. Frustrations at work lead to the loss of intensity of capacity and potential within an employee's personality which are eventually reduced to a minimum (Bostock, 2019). These are evident in the results of the interview conducted.

Code Name	Responses
P7	"These challenges affect my work as fire officer in a sense that it gives me the feeling of being low morale."
P9	"Also, these challenges affect me as fire fighter that sometimes I feel dismayed to myself."

Upon gathering information, most of the respondents are having frustrations with themselves or their work. This action leads to affect the performance of the firefighters. Frustration leads to a demonstration of indifference due to lack of motivation or personal abilities, which often leads to failure and loss of willingness to work (Kleptsova, 2018). Frustration at work can lead to perceiving even the smallest obstacles as something insurmountable, and it may cause the feeling of discontent, inferiority, depression or aggressiveness which results in a loss of faith and willingness to work (Rusu, 2020).

The third identified theme implies that the firefighters in Ozamiz City are having frustrations that affect their performance. The statement being said is a good indication that it can be prevented by giving a minimum workload on a daily basis. Obstacles and challenges that arise on a daily basis when performing work obligations can be sources of frustration at work (Spector, 2019). Frustration can cause some employees to react emotionally to even

the tiniest of difficulties in the workplace. Also, by confronting them in a good way or manner. Confronting them may have a detrimental impact on work since it generates bad feelings and tension (Dorling, 2017).

3.4. Collaboration and Cooperation in Fire Safety and Prevention

Collaboration and cooperation are the key factors mentioned by the firefighters in Ozamiz City in order to have an efficient and effective task. Collaboration and cooperation are two words that are frequently used interchangeably in the workplace especially addressing community participation in fire safety and prevention (Ocloo, 2021). These are evident in the results of the interview conducted.

Code Name	Responses
P2	“Encourage volunteer fire brigade and train more Brgy. Tanods to assist during firefighting operation; I learned how to maintain active connection with the public, promote fire safety, and raise the number of force multipliers.”
P5	“Knowing the fire safety plan is what I can share to my co-worker and to the public in general if they want to prevent fire hazards.”
P7	“Everyone can help the community as force multipliers. Like for example, BPAT’s, they can be trained in order to render help when a fire incident might occur, they can assist the BFP personnel; let us be pro-active, let us be vigilant. Pro-active means you do something that prevents fire.”
P8	“Cooperation between the LGU and the BFP personnel.”

Upon looking into the information, Collaboration, and cooperation between the BFP personnel and the LGU as well as the local authorities such as Barangay Tanods and with the participation of the civilians in order to maintain safety and in order to have a constructed plan when a fire occurs. There are alternative ways to help resolve certain conflicts, such as encouraging volunteer fire departments and training more Brgy. Tanod will assist with the firefighting operation. Maintaining an active connection with the public, promoting fire safety, and increasing the number of force multipliers are also important (Magnavita, 2017).

The fourth identified theme that the BFP personnel was emphasizing which is collaboration and cooperation inside the community in terms of planning, executing, and training locals in order to have a safety plan when a fire occurs is a good indicator of promoting safety towards a better community.

3.5. Serving the People

Serving the people is the most important and top priority of the BFP personnel in Ozamiz City. All of them wanted to give quality service to the best of their ability in order to give safety to their community. Serving others is characterized as showing love and kindness to everyone. Even to those who are unkind to us (Ellis, 2021). We can help others in a variety of ways. Relationships, work, government, worship, and prayer are all ways to serve others.

One of the most valuable ways to serve others is to demonstrate our concern for them by assisting them without putting yourself first and expecting nothing in return (Cottam, 2018). These are evident in the results of the interview conducted.

Code Name	Responses
P2	“Serving the people as a public servant”
P3	“We should not be dismayed to any challenges we encountered and continue to serve the public.”
P6	“BFP personnel are trying our best to serve you the best of our ability.”
P8	“No matter how hard and difficult it is, just do your job in serving the public and be resourceful.”
P9	“No matter how hard and difficult just do our job for the public and be honest always.”

Considering the respondent’s answers, most of them wanted to emphasize to do good even in a simple way. It may not always seem practical to perform a service in our hectic lives, but your service does not have to be monumental. Your service can be as simple as opening a door for someone, striking up a conversation with someone you don’t know, writing a thank you note, or letting someone in (Alberti, 2017). Always serve the people in all honesty no matter what happens. We believe that we can all make a difference by taking action, making a comment, or making a thoughtful gesture of any kind. We believe that if we took the time to perform a small act of service just once a day, not only would the people around us enjoy being around us, but we would benefit as well (Harari, 2020).

The fifth identified theme implies that serving people according to the BFP personnel is being a patriot of one’s country. Serving people in all honesty and giving the best quality of service in order to acquire a peaceful and safe environment and community.

4. Conclusions

The scarcity in responding fire incident, arduous work, frustration in the work, collaboration and cooperation in fire safety and prevention, and serving the people can be mitigated by adding more resources, improve efficiency of the existing sources, and restrict using of existing resources which are not effective. The fire fighters were encourage to exercise while on duty. Those who engaged in regular physical training were less likely to have a serious injury on the fire ground. The bureau’s modernization law assists in resolving these challenges by upgrading their equipment and providing training to their employees. The plans may also be their first step in establishing a relationship in the community in order to provide lectures and seminars for their own safety in the event of a fire. The best weapon in resolving those challenges in terms of fire incident is to always be patient with those who are hostile during fire and to stay away from those who act violently during fire incident and to be

approachable at all times in the community for our own safety. Also, those who are trained regularly perform job-specific tasks more efficiently than untrained firefighters. Thus, it is recommended to implement exercise program for firefighters.

5. Recommendations

It was suggested that the Ozamiz City Bureau of Fire Protection staff in charge of reacting to fire incidents to do more fire drills and lectures about firefighting and fire safety. Also, the Local Government Unit (LGU) must provide the lacking equipment of the BFP of Ozamiz City. Furthermore, residents of Ozamiz City are encouraged to support one of the Bureau of Fire Protection's plans and programs to hold public lectures and drills so that they are aware of their safety in the event of an emergency.

To overcome the arduous work, BFP personnel should conduct fire safety lectures and provide tips on how to reduce fire incidents. You must evaluate the situation immediately when responding. The only way to minimize the incident is to act quickly and wisely. When responding to or even being a victim of a fire, you must remain calm in order to make sound decisions and think clearly. To address the issue, the community is encouraged to form a volunteer fire department and train more Brgy members such as Tanods that will assist in the firefighting operation. Furthermore, in order to alleviate the frustration caused by the encountered challenges, the bureau intends to implement the "BFP Modernization Law," which will assist personnel in overcoming those challenges by modernizing their equipment for the modernization program, which includes the acquisition of modern fire equipment, the expansion of the BFP's manpower, and the provision of specialized training for firefighters. Through these challenges, BFP personnel should not be discouraged and should continue to serve the public, and rest assured that BFP personnel were doing their best to serve you to the fullest.

Declarations

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Competing Interests Statement

The authors declare no competing financial, professional and personal interests.

Consent for publication

Authors declare that they consented for the publication of this research work.

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