Competencies of Bureau of Fire Protection Personnel and the Incidence of Fire in the National Capital Region, Philippines: A Correlational Study

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ABSTRACT

This study evaluated and assessed the competencies of Bureau of Fire Protection (BFP) personnel and the challenges encountered in managing fire incidents in the National Capital Region (NCR) from 2015 to 2024. Employing a quantitative-correlational research design, the study aimed to establish the relationship between BFP personnel competence and fire incident outcomes—specifically in classifying fire incidents, managing casualties, and containing property damage. Data were gathered using survey questionnaires, key informant interviews, and documentary analysis, with a total of 357 respondents from various. BFP units across the NCR, selected through stratified sampling and Cochran's formula.

The findings revealed that BFP personnel were generally competent, earning mean ratings ranging from 4.42 to 4.43. Fire incidents ranged from 12,070 to 19,292 cases annually, with casualties peaking at 448 in 2019 and damages reaching ₱13.07 billion in 2023. A significant negative correlation was found between BFP competence and casualties ($r = -0.713$, $p = 0.016$), while relationships with fire classifications and property damage were weak and statistically insignificant.

The NCR was chosen as the study locale due to its high population density, rapid urbanization, and frequent fire occurrences. The region's urban complexity and infrastructure challenges heightened its vulnerability to fire hazards, making it an appropriate site to assess the performance of fire protection personnel. The study also reviewed existing fire prevention measures such as public awareness campaigns, inspections, drills, and policy enforcement.

Challenges identified included lack of equipment (86.83%), personnel shortages (81.51%), poor public cooperation (53.78%), inadequate water supply (49.86%), and disorganized urban planning (47.06%). To address these, proposed action plans included equipment procurement (₱7.5M), recruitment and training (₱5M), awareness campaigns (₱750K), hydrant installation (₱3M), and urban planning coordination (₱1M).

The study concluded that while BFP personnel in the NCR demonstrate competence in fire management, significant gaps in logistics, infrastructure, and public engagement remain. It recommends continuous training, strategic resource allocation, infrastructure upgrades, and multi-sectoral collaboration to improve fire safety and governance in the region.

INTRODUCTION

Globally, fire incidents, which affect millions, are an immense public safety concern. The analysis of fire brigade activities across 48 countries revealed some stark statistics in 2020 when more than 3.3 billion people lived in these countries, speaking to the airborne prevalence and consequence of fires. Fire brigades in these countries reported more than 69,900,000 missions, with about 4,000,000 of these calls about fires in some form of classification.

The loss of human life seems to be a brutal price to cover: more than 20,700 deaths and more than 70,000 injuries

occurred due to fires in 2020. Translating this into ratios: about 20.8 fire-related incidents occur per 1,000 population, while incidents that are directly known to be fire cases come around to 1.2 per 1,000 population. In relative terms, fire-related deaths stand at 0.6 among 100,000 population, and injuries are 2.1 among 100,000 population, a clear indicator of fire hazards to human life and welfare.

Such an analysis tallies the tragedy: about half a life is lost and 1.8 persons are injured for every 100 fires-with dire consequences of fire incidents. These numeric values reflect not just the magnitude and seriousness of fire instances but also point to the needs of fire prevention and response measures. Such an understanding is crucial for policymakers, fire safety professionals, and communities to minimize risk and elevate safety standards (The Citizens Through Skilled Firefighters, World Fire Statistics Report, 2019).

Moreover, fire safety education that engages the community in exchange will further improve preparedness and promote reciprocal support. Dealing with hostile subjects during fire incidents calls for patience and approachability under the paradigm of firefighter safety. Implementing an on-going physical fitness program for firefighters will increase their physical strength and optimize their task handling capacity. The Bureau, thus, by addressing the challenges unreservedly with a proactive approach, would better serve its constitution in protecting life and property against the ravages of fire. (Lagata, et.al, 2022).

With 13 years of practical experience as a firefighter and now a doctoral student in Public Administration, the researcher ideally positioned to go deeper into the intricacies of fire incidents and safety measures, especially in relation to the study titled "Competencies of Bureau of Fire Protection Personnel and the Incidence of Fire in the National Capital Region, Philippines: A Correlational Study." This title suggests a focus on the study of the patterns and dynamics of fire occurrences in a specific region, NCR, using data analytics. My extensive tenure as a firefighter bestowed upon me an insider view of the realities of being at the front line of fighting fires, conducting rescue operations, and sadly witnessing the aftermath of such incidents. These experiences inculcated in me an understanding of the layers of challenges and complexities that are involved in fire prevention, response, and recovery.

The academic journey in Public Administration enriches my viewpoint by empowering me with analytical tools and theoretical frameworks to critically analyze the efficacy of current fire safety policies and procedures. In this manner, the researcher aims to analyze underlying trends, risks, and vulnerabilities that are contributing to incidences of fire within the cities of the National Capital Region through data analytics techniques. Leveraging statistics and computational techniques, the researcher can discern valuable findings that translate into actionable strategies aimed at improving fire prevention, emergency response preparedness, and community resilience.

Moreover, this interdisciplinary approach makes the researcher possible to evaluate the fire incidents as more than just solitary events but rather as interrelated occurrences, influenced by socio-economic factors, environmental circumstances, and regulatory structures. By merging practical insight with academic rigor, the researcher attempts to bridge the theory-practice divide to ensure that the research results are not just academically grounded but are also immediately implementable in addressing the issues faced by firefighting professionals, policymakers, and communities in the National Capital Region (NCR).

In essence, the researcher’s dual role as a firefighter and a scholar positions him to contribute meaningfully to the study of fire incidents in the National Capital Region. By harnessing the power of data analytics and drawing upon the practical experiences, the researcher aspires to advance our understanding of fire dynamics, strengthen fire safety measures, and ultimately, safeguard lives and properties in the National capital Region.

RESEARCH METHOD

This study used a quantitative and correlational research design in providing a comprehensive evaluation of the competence of Bureau of Fire Protection (BFP) personnel and its correlation with fire incidence within the National Capital Region (NCR) for the past ten years. Such a design was chosen for a dual purpose: to generate empirical data with an analytical study on the patterns, causes, and implications of fire incidents within the region, which is in accordance with the overarching objectives of the researcher to further the cause of enhanced fire safety and public administration.

Quantitative in nature, the study looked into the collection of measurable and objective data while concentrating on key variables such as the classification of the fire incidents, the casualties, and damages in terms of pesos. These quantitative indicators served to understand the magnitude and severity of fire emergencies in the NCR and whether or not BFP personnel handled them effectively. Using statistical tools, the study was set out to define the status of fire cases and how this phenomenon changed in the last decade.

Competence of BFP personnel was measured through such dimensions as their actual level of fire incident response by fire type or classification of fire, number of casualties (either injuries or death), and the number of damages to property. These dimensions will act as an operational level to evaluate how ready, efficient, and effective the personnel of the fire service are in responding to, containing, and managing fire emergencies. The competence of each anamnesis, including records of performance, incident reports, and responses to outcomes, was considered.

This correlational study was set to determine to what extent a statistical (significant) relationship exists between BFP personnel competence and actual fire incident outcomes in NCR. Relatively, this means the investigation is centered on whether a higher level of competence gained by BFP personnel has to do with lower casualty rates, lesser damage or better containment of fire classifications. Using correlation and regression analysis, this study tried to identify patterns that could inform training, resource allocation, and policymaking in the future.

To address the research questions further, the study also explored the types of fire prevention measures that the BFP had implemented to reduce fire incidents during the period of interest. These preventive measures included BFP public awareness campaigns, regular inspections, fire drills, and enforcement of fire safety regulations. The effectiveness of the selected measures was evaluated on the grounds of BFP staff perception and apparent fire incident trends.

Additionally, it was necessary to identify the problems and obstacles that BFP personnel typically encounter in the exercise of their duties. These may include insufficient manpower, lack of equipment, inadequate training, voluntary compliance by the populace, and administrative bottlenecks. It was essential to comprehend these hindrances in order to propose relevant and implementable action plans that would suitably address these gaps in fire prevention and response.

To obtain as much data as possible, multiple data collection methods were utilized in the study. Survey questionnaires were administered to the Fire Marshals and other personnel of BFP scattered all over the National Capital Region. These questionnaires/free-question formats had closed-ended questions enough to produce inferences and open-ended questions, which provided an ample qualitative appreciation of the field experiences, roadblocks, runs, and triumphs of the respondents. The dual nature of the survey was thus intended to provide a much greater assurance that findings would be both informed by data and embed within its less formally described contextualized settings.

This was complemented with Key Informant Interviews with a purposive sample of BFP officers having firsthand knowledge and experience of fire prevention and response operations. This qualitative method yielded in-depth knowledge vis-à-vis pertinent issues flagged by respondents in the questionnaires and delved further into the complexities involved in BFP operations which the quantitative data may not have been able to fully capture.

Documentary analysis likewise flourished, bringing in an arsenal of secondary data comprising official documents, incident reports, annual fire statistics, operational manuals, and policy directives emanating from the Bureau of Fire Protection. Such documents came in handy in corroborating the validity of the primary data from the one-on-one interviews and questionnaire surveys and lent a much broader institutional perspective regarding the progression of firefighting practices in the region.

The synthesis of these various methodological approaches guaranteed an ample and adequately deep assessment of Bureau of Fire Protection personnel competence, a thorough analysis of fire incidents, and a relevant discussion over fire prevention and governance issues. As a result, the emergence of crucial implications for

Public Administration in the study shall, among others, aid urban areas of service delivery, safety, and preparedness for disasters, including the National Capital Region.

Respondents and Sampling Technique

The respondents at all levels of the bureau in the NCR comprised both officials, personnel, and trainees. They are expected to render services on the prevention of fire, fire suppression, and emergency response operations within the region. For the study to have a representative sample, a total of 357 respondents have been chosen for the study, taking into consideration the diversification of responsibilities and experiences in the BFP workforce in the NCR area.

To create a fair representation from the entire population, Cochran's finite population sampling formula was used to determine the appropriate sample size, followed by stratified sampling methods to further divide respondents into various strata according to rank and status. This ensured proportional representation from the various ranks within the BFP, thus enabling the evaluation of the competencies of individuals involved in fire management in the NCR from a wider point of view.

Having personnel and trainees from different ranks helped the researchers assess thoroughly the competency and performance of BFP members in such crucial areas as fire classification, malfunction management, and damage control in fire situations.

The respondents were chosen from various organizational units within the NCR. These organizational units included the Office of the Regional Director (ORD), Manila Fire District, and FD-II Headquarters, which have administrative supervision over fire stations from Caloocan City, Malabon City, Navotas City, and Valenzuela City. The FD-III Headquarters controls fire stations in Pasay City, Makati City, Parañaque City, Muntinlupa City, and Las Piñas City. The FD-IV Headquarters, in turn, is in charge of stations in Marikina City, Pasig City, Taguig City, Mandaluyong City, San Juan City, Pateros Municipal Fire Station, and the Quezon City Fire District.

Data Collection

The data collection for this study followed a systematic procedure to ensure validity, reliability, and proper ethical consideration. At the start, formal request letters were sent to the officials and district heads of the Bureau of Fire Protection (BFP) in the National Capital Region (NCR), asking for permission and approval to carry out the research within their respective offices and fire stations. Upon acceptance, the researcher proceeded with the preparation and validation of the research instrument. The survey questionnaire was vetted by experts, who were charged with examining it for clarity, relevance, and appropriateness of the materials vis-à-vis the objectives of the study.

The conduct of a pilot test, involving 10% of the total targeted respondents, around 36 BFP personnel not included in the actual sample, followed. The results of the pilot test provided concrete suggestions to improve or refine the questionnaire to a level where it would simply be easy to understand and would generate data that could be relied upon. Thus, after validation and pilot testing, the researcher distributed the final questionnaire to 357 respondents who were selected through stratified sampling that allowed proportionate representation considering the various ranks and statuses of BFP personnel in the NCR.

The final questionnaire contained four major parts. The first part contained the profile of the respondents including their age, sex, rank, length of service, and fire district and others in which they were assigned. The second part focused on competency evaluation of BFP personnel as regards fire classification, casualty management, and damage control—each aptitude consisting of 20 statements rated using the Likert scale. The third part consisted of open-ended questions geared towards eliciting deeper insights into the critical competencies during fire suppression, actual incidents that demonstrated the effects of such competencies, and perceptions of lacking training or skills. The fourth part was about the problems encountered by personnel during fire-related operations and their suggestions on how to best improve response efforts to reduce fire-related damages.

To supplement the data from the questionnaire, more semi-structured interviews were held with selected key informants. These interviews included such questions as: "Can you describe the competencies you believe are most critical during fire suppression incidents?"; "Can you share an incident where you felt that firefighter competency either helped reduce or contributed to the severity of the fire?"; and "What training or skills do you think are lacking that could help reduce fire losses or improve response effectiveness?"

Furthermore, documentary analysis was conducted by reviewing official fire incident reports and other relevant documentation from the BFP offices in the NCR. These steps helped contextualize the findings as well as validate the responses obtained from the surveys and interviews. Ethical concerns were observed during the data-gathering process. Each respondent was informed of the study's purpose, assured of their anonymity, that their participation was voluntary, and an assurance of confidentiality of their responses.

Data analysis

Data from questionnaires, interviews, and document analysis were tabulated and analyzed to understand the relationship between Bureau of Fire Protection (BFP) personnel competencies and fire incidence in the National Capital Region (NCR). Responses were checked for completeness and accuracy; inconsistent data were reviewed, corrected, or removed. Entries were categorized and cross-checked for consistency.

Descriptive statistics—including frequency counts, percentages, and mean scores—were used to analyze demographic characteristics and assess competency evaluations. Percentages helped quantify respondent opinions and experiences, highlighting patterns across factors such as years of service, training, and competency levels.

Frequency analysis identified how often specific competencies and issues arose, while percentage computation standardized the data for easier comparison. Ranking was used to determine the most critical competencies, challenges, and suggested interventions, based on frequency and mean scores. Key issues included lack of equipment, training, and coordination.

Weighted mean scores, derived from a 20-item Likert scale, reflected the perceived average competency level of BFP personnel. The findings offer valuable insights for guiding institutional development and prioritizing competency and response improvements.

Ethical Considerations

The conduct of this study was in strict conformity with the ethics of proper treatment of human participants to ensure their safety, dignity, and rights. During data collection, formal approval was requested from appropriate authorities, such as the BFP regional and district offices in the National Capital Region. To obtain relevant data and personnel, permission letters were sent out for the consent of concerned officials.

Participation in the study was all voluntary. All respondents were informed about the objectives, scope, and procedure of the research. Before questionnaires were distributed, respondents were required to sign informed consents, assuring participants that they could choose to withdraw at any time for any reason without penalty or cost.

To ensure total anonymity and confidentiality, questionnaires did not require any names or otherwise identifiable information from the respondents. Answers to the questionnaire were coded under lock and key to avoid unauthorized viewing or use. All information was used for educational and research purposes only and treated with utmost confidentiality.

Additionally, the research was validated by way of a pilot test with ten percent (10%) of the total target respondents to judge if the research tools were ethical, offensive, biased, or culturally improper. Based on the expert evaluation and recommendations, the final draft set of questionnaires was made; neither was psychological, emotional, or professional undue pressure or harm inflicted on the respondent. The researcher made sure that no participant would be subjected to physical, psychological, or professional harm through the course of the research. All through the research, the ethical standards of the university and the research

institutions were adhered to.

Lastly, the researcher honored honest and impartial reporting of findings and conclusions, analyzed and interpreted data without manipulation, and acknowledged all intellectual property consulted. The researcher also undertook to disseminate the results properly and to utilize the study as a steppingstone toward policy improvement and organizational development within the Bureau of Fire Protection.

RESULTS AND DISCUSSION

Competence of Bureau of Fire Protection (BFP) Personnel

The ability of BFP personnel is paramount in managing effectively fire incidents and other emergencies in the National Capital Region. Competence within this context signifies a bundle of knowledge and skills with attitudes and the practical ability of BFP personnel to efficiently perform their functions in various fields of fire management-control, namely, prevention, suppression, casualty handling, and damage-control. With the nature of their work being high-risk, it becomes crucial that the personnel possess the requisite competencies to basically respond to fire emergencies at the earliest and effectively, so as to reduce loss of lives and properties.

The study aimed to analyze the level of competency of the BFP personnel of various ranks and positions within the NCR. Given a sample size of 357 respondents plus trainee, working persons alike, the study targeted rendering an all-encompassing view of the major competencies required for successful performance in fire management. The assessment used various indicators, such as fire classification, casualty management, and damage control, to explore specific competency areas in detail.

Knowledge of BFP personnel's current competencies is essential for several purposes. The first purpose is to help develop the training programs and capacity-building efforts of the organization so that the workforce would be adequately prepared to meet the ever-changing challenges posed by fire risk management. The second purpose is to point out intervention areas deemed crucial for enhancing overall response effectiveness and thus better results in terms of public safety. The last purpose is to contribute to the wider discussion of aligning competency development with best practices locally and internationally so that such efforts will, in effect, strengthen the Bureau's role in aiding the communities from fire hazards.

This section shall feature an account of the perceived level of competence of the BFP personnel supported by quantified data and encloses complementary qualitative insights. The analysis attempts to single out competencies that are most instrumental in bringing about favorable results in fire incidents and lay the foundation for making bids toward ameliorating fire management in the National Capital Region.

Classification

The data revealed that the BFP personnel are well competent in classifying fire incidents with an overall mean score of 4.43, under the “Competent” category. The highest ratings were given for elementary works such as distinguishing fire types correctly residential, commercial, industrial, and vehicular as well as categorizing properly the fire incidents according to causes-e.g., electrical faults, chemicals, arson, and accidents. Thus, these constitute strengths in the technical area of the personnel in the accurate identification and classification of a fire, which is vital for firefighting and risk management. Personnel were also found to be competent in confirming these classifications through appropriate investigations and in using the classification data to highlight high-risk areas, thereby directing fire prevention programs and firefighting responses. This classification is further validated through compliance with Republic Act No. 9514 (Fire Code of the Philippines) and by coordinating with local government units on fire classification matters.

But some areas scored slightly lower but still competent, such as }[the integration of digital reporting systems, the regular review of classification data for data-entry errors, harmonization with international standards, and ongoing training]}as potential areas for improvements in leveraging technology and continuous professional development. While transparency on classification reporting, insurance, and legal documentation has been accounted for, it points to a wider framework beyond the immediate operational response where fire classification is relevant. In general, however, these results provide a solid assurance that BFP personnel have a

good foundation in the classification of fire incidents, which forms the basis for sound decision-making, resource allocation, and policy formulation aimed at instituting fire safety and resilience.

Table 1 presents the Overall evaluation from 2015-2024 about the competence of BFP Personnel in terms of Classification.

Table 1

Competence of BFP Personnel in terms of Classification

Statement	Mean	Adjectival Rating
Fire incidents are correctly distinguished by type (residential, commercial, industrial, vehicular)	4.66	Highly Competent
Classification helps identify high-risk areas prone to fire incidents.	4.54	Highly Competent
Fire incidents are properly categorized (e.g., electrical, chemical, arson, accidental).	4.53	Highly Competent
Fire classifications are verified for accuracy through proper investigations.	4.51	Highly Competent
Fire classifications aid in appropriate firefighting response strategies.	4.49	Competent
BFP personnel strictly adhere to Republic Act No. 9514 (Fire Code of the Philippines) in classification.	4.49	Competent
Fire classification contributes to the development of fire prevention programs.	4.49	Competent
Statistical analysis of classifications helps in drafting better fire safety policies.	4.47	Competent
Personnel assess fire intensity and spread for proper classification.	4.45	Competent
BFP ensures transparency in fire classification reports.	4.44	Competent
Collaboration with LGUs improves the fire classification process.	4.44	Competent
Personnel are knowledgeable in identifying flammable material sources.	4.44	Competent
BFP personnel accurately classify fire incidents according to standard procedures.	4.43	Competent
Fire classification supports insurance claims and legal documentation.	4.43	Competent
BFP aligns fire classification practices with international standards.	4.36	Competent
Fire classification data is utilized for efficient resource allocation.	4.34	Competent
Fire classification records are regularly reviewed for errors and inconsistencies.	4.32	Competent
Digital reporting systems are effectively used for real-time classification.	4.30	Competent
Proper classification influences fire safety funding and resource distribution.	4.26	Competent
Personnel undergo regular training on proper fire classification.	4.23	Competent
Overall Mean	**4.43**	**Competent**

Casualty

From the results it exhibited that BFP personnel are largely capable of managing casualties during a fire with an average rating of 4.43 that falls under the "Competent" category. The highest ratings considered those concerning the agency's aggressive stance on casualty reduction, e.g., conducting fire drills in schools and workplaces,

giving priority to vulnerable sectors of society like elders, disabled persons, and children, and holding fire simulation drills on a regular basis. Such actions shall speak of the BFP's desire to be prepared and to prevent.

They also ensure that emergency exits and evacuation routes are accessible, and there is proper coordination with the emergency medical teams for effective casualty management during incidents. Moreover, the responders also reacted swiftly, conducting public awareness campaigns on fire safety and casualty prevention, which form an integrated means of minimizing deaths and injuries. Competency was displayed in first aid, following Standard Operating Procedures, communications between firefighters and medical teams, and proper use of protective equipment, all of which are essential in emergency response.

On the other hand, trauma and stress management for victims, emergency medical certifications, and post-incident debriefings scored lower yet in the competent range, offering targets for developments in these areas. Hence, the data supports that the BFP is capable of handling casualties in a holistic manner which takes into account operational efficiency, public safety instruction, and inter-agency cooperation for improving community resilience against fire hazards.

Table 2 presents the Overall evaluation from 2015-2024 about the competence of BFP Personnel in terms of Casualty.

Table 2

Competence of BFP Personnel in terms of Casualty

Statement	Mean	Adjectival Rating
BFP conducts fire drills in schools and workplaces for casualty reduction.	4.61	Highly Competent
Firefighters prioritize vulnerable individuals (elderly, disabled, children) during incidents.	4.56	Highly Competent
BFP regularly conducts fire simulation drills to minimize casualties.	4.55	Highly Competent
BFP personnel ensure emergency exits and evacuation routes are accessible.	4.52	Highly Competent
Coordination with emergency medical teams is well-implemented.	4.49	Competent
Personnel demonstrate quick response times to reduce casualties.	4.48	Competent
Public education on fire safety and casualty prevention is regularly conducted.	4.48	Competent
Firefighters effectively administer first aid and emergency medical assistance.	4.47	Competent
BFP casualty response aligns with national disaster response policies.	4.47	Competent
Documentation of casualties is accurate for statistical and legal purposes.	4.46	Competent
BFP personnel strictly follow Standard Operating Procedures (SOPs) for casualty response.	4.46	Competent
Communication between firefighters and medical teams is efficient.	4.45	Competent
Proper protective gear is used to ensure safety during rescue efforts.	4.42	Competent
Casualty investigations are conducted to determine contributing factors.	4.41	Competent
BFP personnel are highly skilled in search and rescue operations.	4.35	Competent
Firefighters are trained to manage trauma and stress among fire victims.	4.29	Competent
Every BFP station has an emergency response team for fire-related injuries.	4.29	Competent
Firefighters complete emergency medical certifications as required.	4.29	Competent

Post-incident debriefings are conducted to evaluate casualty management effectiveness.	4.26	Competent
Training on casualty response is updated based on new best practices.	4.25	Competent
Mean	**4.43**	**Competent**

Damage

The result revealed that the capability of the BFP personnel in the assessment and management of fire-related damages, providing an average mean rating of 4.42, which lies in the competence category. Highest ratings stress the importance of fire safety measures and community involvement in enhancing the severity of damages, as well as the imperative need of lessening response times to curb fire damage. BFP personnel possess virtually all ability to document fire damage accurately for insurance claims and legal purposes and aid in the upgrading of fire prevention programs and the strictness of safety regulations. The assessments after fire damage are complete, in that criteria include the evaluation of structural integrity, loss of property, and environmental impact, with established protocols adhered to all the time. The damage data are well used in the identification of fire-prone areas, influencing firefighting strategies, and decision-making about policies and allocation of funds for fire disaster recovery.

Cooperatively with LGUs, such assistance is extended for the recovery initiatives. Although most aspects of damage assessment and management are rated as highly competent, the overall rating indicates there remains some room for improvement, in order to enhance even more the evaluation of damage and its linkage to prevention and recovery strategies. This more integrated approach enables the BFP to reduce fire impact more adequately and assist the community in becoming resilient.

Table 3 presents the Overall evaluation from 2015-2024 about the competence of BFP Personnel in terms of Damage.

Table 3

Competence of BFP Personnel in terms of Damage

Statement	Mean	Adjectival Rating
Fire safety measures reduce the severity of damage in most incidents.	4.55	Highly Competent
Community involvement in fire prevention helps reduce damage levels.	4.53	Highly Competent
Response time significantly impacts the extent of fire damage.	4.50	Highly Competent
Proper documentation of fire damage is ensured for insurance and legal use.	4.49	Competent
Post-fire damage reports contribute to improved fire prevention programs.	4.46	Competent
Fire damage data is used to advocate for stricter fire safety regulations.	4.45	Competent
BFP personnel conduct thorough post-fire damage assessments.	4.43	Competent
Damage reports include evaluations of structural integrity and property loss.	4.43	Competent
Post-fire evaluations lead to improved firefighting strategies.	4.43	Competent
Standardized protocols for fire damage assessment are followed.	4.40	Competent
Damage assessments are used to identify trends in fire-prone areas.	4.40	Competent
Public infrastructure affected by fire undergoes thorough safety inspections.	4.40	Competent
BFP collaborates with LGUs for post-fire damage recovery efforts.	4.39	Competent
BFP accurately reports economic losses caused by fire incidents.	4.39	Competent

BFP officers are competent in estimating financial damages caused by fire.	4.38	Competent
Damage reports inform policymakers and urban planners.	4.36	Competent
Fire damage assessments include an evaluation of environmental impact.	4.36	Competent
BFP personnel provide recommendations for fireproofing affected structures.	4.33	Competent
Damage reports influence funding allocation for fire disaster recovery.	4.33	Competent
Effectiveness of BFP response is assessed based on damage severity.	4.31	Competent
Mean	**4.42**	**Competent**

Recorded Fire Incidents

Classification of Fire Incidents

The classification of fire incidents, so adopted and implemented by the Bureau of Fire Protection, BFP, is vital to comprehend the fire-related disasters the country will confront, especially in understanding their response and mitigation. Fire incidents are classified systematically, chiefly according to their origin-whether they be accidental, incendiary, natural, or due to negligent acts; on the severity scale of the incident-whether minor, moderate, or major conflagrations; and in terms of extent of damage, including property loss, casualties, and environmental impact. These classifications provide a basic framework of reference for fire management operations, affecting the immediate response and way beyond into long-term strategies and policymaking.

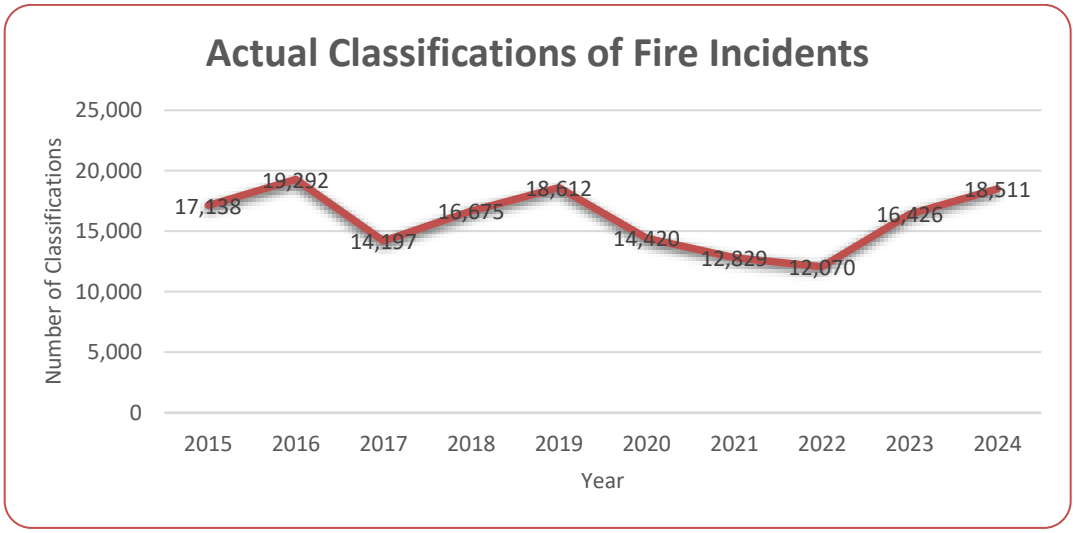
Most fire incidents are classified according to their causes and nature to facilitate proper investigations and preventive measures. Actual incidents are proven cases in which a fire really occurred. Some fires exist because of an act of negligence in which careless acts or failure to follow established safety measures lead to an accidental ignition or blaze. Accidental fires blaze unplanned with no directed intent. When the cause of fire is not readily apparent, the case is classified under investigation while the investigators painstakingly seek the cause of the fire incident. Even after thorough investigation, in some cases, the cause may remain undetermined. Natural fires are caused by natural phenomena, for example, lightning strikes or severe weather circumstances. Incendiary fires are finally set with intent to destroy and do wreak damage. It is essential to make sense of these classifications to design the relevant fire prevention and control strategies further. Table 4 presents the detailed summary of fire incidents from year 2015-2024.

Table 4 Classification of Fire Incindents

Classification of Fire Incidents										
Actual Incidents	**Year**									
	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Fire Cases w/ Negligent Acts	272	271	202	214	425	108	2	0	2	1
Accidental	13, 176	14, 725	10, 576	12, 534	13, 149	13, 010	9, 863	8, 721	15, 215	16, 960
Under Investigation	3,635	4,180	3,350	3,827	4,594	841	2,658	2,024	702	1,113
Undetermined	55	116	69	100	88	131	101	46	34	1
Natural					130	30	24	20	63	70
Incendiary					226	300	181	199	413	367
Total	**17,138**	**19,292**	**14, 197**	**16, 675**	**18, 612**	**14, 420**	**12, 829**	**11, 010**	**16, 426**	**18, 511**

The classification data from 2015 to 2024 encompasses the momentous changes borne within the realm of fire incidents in the National Capital Region. The preponderance of accidental fires begs the question for immediate intervention into massive public dissemination of accident prevention awareness, safety inspections, and strict adherence to the building code. The incidents are still being investigated and those resulting from negligence point to gaping holes in the systems of prevention, monitoring, and community regulation. Arson incidents, in contrast, reflect a much bigger social agenda that intersects with safety and enforcement against fire prevention.

Meanwhile, the decline in the undetermined cases is an affirmation of the improved capacity of investigation and management of information by the Bureau of Fire Protection. This classification data, therefore, strengthens the case for fire prevention and management being a multi-stakeholder drive, one that incorporates public information, policy framework, urban planning, and institutional Moreover, figure 1 presents the Classifications of Fire Incidents in the National Capital Region from 2015 to 2024.



Recorded Casualties

From 2015 to 2024, this section shows how many casualties were recorded as resulting from fire incidents in the National Capital Region (NCR). Here, casualties relate to persons who are injured or killed by fire occurrences. These figures form a strong metric of the human toll and gravity of fire incidents rather than one of economic loss and damage to property. With the analysis of casualty data, the Bureau of Fire Protection (BFP) and other concerned players can gauge the impact or success of present fire safety measures, emergency response systems, and public awareness campaigns. The number of casualties rising or being sustained consistently might indicate the further need for improved evacuation protocols, improved community preparedness, and strict observance of fire safety regulations for residential and commercial settings.

Furthermore, an understanding of casualty trends can help policymakers and local government units (LGUs) in directing resources to medical response, rehabilitation services, and fire risk reduction programs. In essence, it is the underlying human need data that would support calling for measures to act proactively for fire prevention and disaster response planning.

A ten-year review of fire-related casualties in the National Capital Region, 2015 to 2024, charts a fluctuating trend with some distinct peaks and falls. The year with the greatest devastation in the study period was 2019 with 448 casualties. This could be possibly explained by a combination of a heavily populated environment, greater urban fires, or lapses in fire safety and emergency response coordination for that year.

On the other hand, the year 2015 also had a relatively high casualty and injury rate at 356, followed by a decrease in casualties to 285 in 2016 and 305 in 2017, suggesting a period of moderate improvements in fire response strategies and public awareness. The decreasing trend continued to reach a further low of 260 in 2018, presumably highly influenced by increased safety campaigns, better enforcement of fire safety measures, and the enforcement of Republic Act No. 9514, otherwise known as The Fire Code of The Philippines.

At this point, one can realize that the drastic increase in 2019 disrupted the downward trend discussed above, which means that there were probably some system faults and increased occurrence patterns of fire in that year. The following year, casualties dropped steeply once more, in 2020 to 253, possibly due to continued restricted movement and reduced activities during the COVID-19 pandemic lockdowns, resulting in generally fewer fire incidents.

The time span from 2021 until 2024 witnessed a relatively steady yet showing signs of an increase with 325 in 2021, 241 in 2022 (the least in the decade), and then 321 in 2023 and 317 in 2024. This illustrates the resilience of fire prevention/mitigation measures that existed in the meantime and expresses the urgent need for special interventions in vulnerable communities and informal settlements where fire hazards are more pronounced owing to overcrowded conditions and inadequate infrastructure.

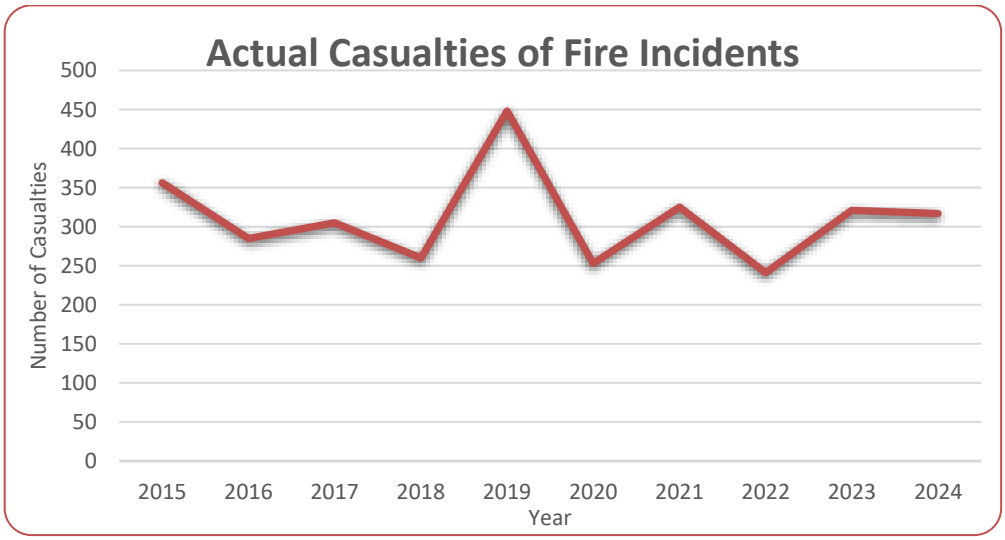
Table 5 presents a detailed overview when it comes to casualty of fire incidents in the National Capital Region from year 2015 to 2024.

Table 5 Number of Recorded Casualties

Year	Casualties
2015	356
2016	285
2017	305
2018	260
2019	448
2020	253
2021	325
2022	241
2023	321
2024	317

The chart depicts the casualty figures from fire events over the years of 2015 to 2024. It represents the annual causation of lives lost due to fire as both civilians and officers. It clearly explains what the graph shows as an impact of fire-related emergencies on human life and public safety in society whereby fire-related events are all too often cut short.

Figure 2 presents the Casualties of Fire Incidents in the National Capital Region from 2015 to 2024.



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Recorded Damages

Fire recorded damage relates to the organized collection and analysis of losses due to fire incidences. Damage generally includes destruction of residential and commercial properties, public infrastructures, vehicles, and in some instances, natural resources. The same will affect economy by disruption of businesses with open costs of emergency response and rehabilitation incurred further.

Recording damages accurately is paramount for various reasons. It is prime for propagating data to agencies such as the Bureau of Fire Protection (BFP), local government units (LGUs), disaster response teams, and thus understand well enough gravity-the magnitude and extent of destruction reached by the fire. This document presentation creates a very crucial tool in organizing and prioritizing relief operations to ease aid delivery to the maximum degree possible to those that most need it. It will also help define just how much financial, material, and manpower resources can be allocated to recovery efforts and rehabilitation. Correct damage records lead the way for providing compensation assistance to affected citizens and communities engaged in fair and transparent support. Finally, a comprehensive assessment will help the planning process for future fire prevention and risk reduction strategies to make them resilient communities.

In addition, this documented damage will be used to establish better fire prevention policies and safety regulation and more efficient emergency response strategies. Such understanding would enable authorities to promote better public information campaigns, improve fire safety inspections, and improve building standards to avoid further fires by understanding damage trends and causation. So on the whole, recorded damages would give a complete picture of the effects of incidence due to fire events so that such factors indoor better management and mitigation of fire hazards.

Table 6 presents a detailed overview when it comes to damages of fire incidents in the National Capital Region from the year 2015 to 2024.

Table 6 Amount of Recorded Damages

Year	Damages (Php)
2015	3,600,000,000.00
2016	3,100,000,000.00
2017	7,800,000,000.00
2018	12,500,000,000.00
2019	8,147,000,000.00
2020	3,810,000,000.00
2021	4,480,000,000.00
2022	4,334,000,000.00
2023	13,069,000,000.00
2024	7,670,319,201.74

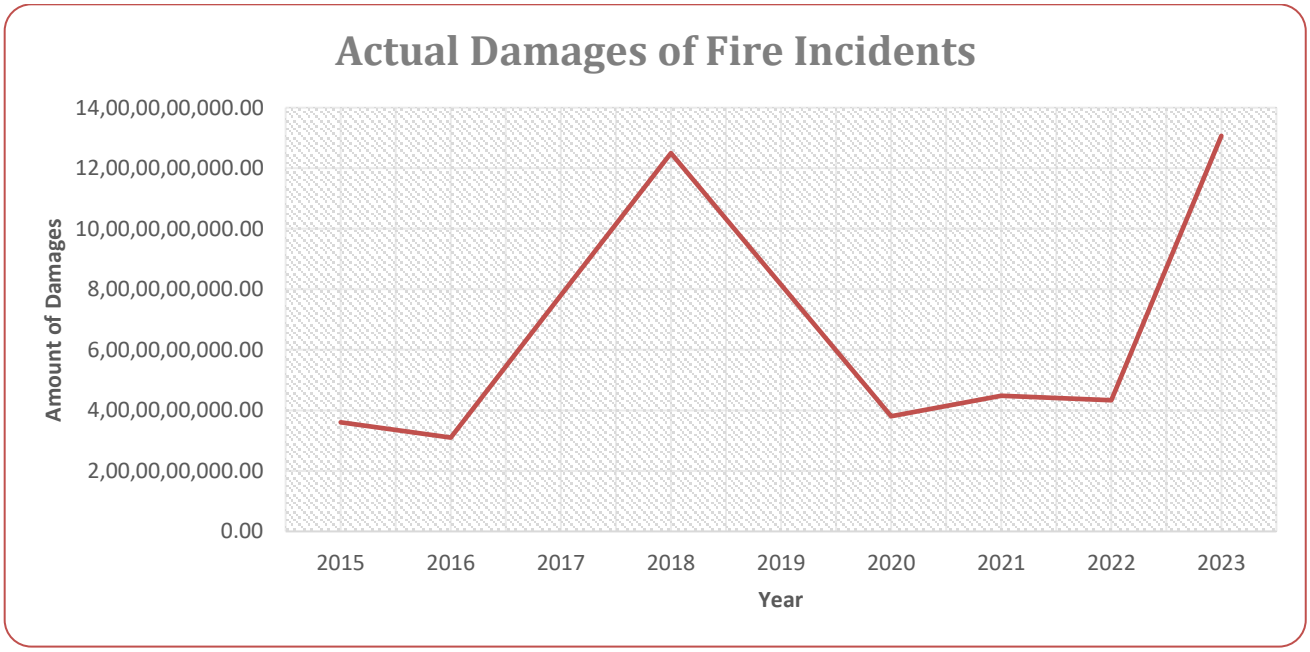
This recorded damages data from 2015 to 2024 indicate a huge variation in losses associated with fire incidents over a ten-year period. Fires were considered mild at the beginning, with recorded damages amounting to only Php 3.6 billion and Php 3.1 billion in 2015 and 2016, respectively. It seems to be a phase of relative stability, probably due to effective fire-prevention measures, timely response, or simply fewer large-scale fire events. However, damage became more intense starting in 2017 when it shot upwards to Php 7.8 billion, signaling a marked increase in the harshness and/or frequency of fire incidents. That upward trend rose sharply again in 2018 when damages spiked at Php 12.5 billion, standing as one of the highest recorded losses in the decade. This

spike may be caused by either big catastrophic fires, rapid urbanization increasing vulnerability, or improved reporting mechanisms that captured more complete information about the damages.

After this peak, the trend turned into a downward one, with damages falling to Php 8.1 billion in 2019 from the above-estimated figure, and then going down even more steeply to the tune of Php 3.8 billion in 2020. This waning trend could signify the successful implementation of new fire safety regulations, improvement in emergency response capabilities, or may well be the influence from externalities such as reduced industries and social activity during the COVID-19 pandemic that conceivably lowered fire incidents and exposure.

There was a marginal rise in damage recorded during 2021 and 2022 to the vicinity of around Php 4.3 to 4.5 billion, indicating some recovery of fire operation activity or reporting changes. Notably, 2023 bore the largest number of damage reports in the entire dataset, climbing rather high to Php 13.07 billion. Such high increase indicates that either those fire incidents are indeed so nasty, or the infrastructures and communities were unduly becoming more vulnerable to fire hazards. The high recorded damages were again reduced in 2024 to approximately Php 7.67 billion, but again, the amount is very high compared to most of the previous years, indicating the continuous challenge posed to fire-risk management. Such variations represent the true and intricate nature of fire damage, emphasizing the strongest need for a continuous assessment and better prevention strategies, along with enough resource allocation and public awareness programs in order to minimize future losses and better protect communities from fires.

Figure 3 presents a timeline of Recorded Damages from Fire Incidents for the National Capital Region between 2015 and 2024, clearly depicting how fires have historically impeded the economic stability of the area and affected the allocation of resources.



CORRELATION BETWEEN PERCEIVED COMPETENCE OF BFP PERSONNEL AND RECORDED FIRE INCIDENTS IN NCR

This section discusses the relationship between the perceived competence of Bureau of Fire Protection (BFP) personnel and the frequency of recorded fire incidents in the National Capital Region (NCR). Understanding this correlation is important because the performance and competence of fire protection officers are linked to preventing, controlling, and managing fire emergencies. This analysis aims to determine whether higher competence perception translates to lesser fire incidents and improved outcomes in fire response by evaluating the perceived competence of the BFP personnel from the public and stakeholders against official records of fire incidents. The results can serve as a valuable source of information for policy makers, fire service leadership, and community partners towards guiding training programs, resource allocation, and fire safety strategies in one of the most congested and vulnerable areas in the country. Table 7 presents the correlation between the perceived

competence of BFP personnel and the recorded fire incidents in the National Capital Region from the year 2015 to 2024.

Table 7 Correlation

Components	Pearson r	p-value	Decision	Result
Classifications	-0.439	0.204	Accept H_o	Not Significant
Casualties	-0.713	0.016	Reject H_o	Significant
Damages	-0.200	0.580	Accept H_o	Not Significant

Based on the information described under correlation analysis, it summarizes the degree of association of various components with the dependent variable. The component casualties exhibit a strong negative correlation (r = -0.713), which is statistically significant (p = 0.016). This implies a meaningful inverse relationship indicating that with an increase in casualties, a significant decrease in the dependent variable is expected, or vice versa. In contrast, classifications and damages show negative correlations but of a weaker nature and statistically insignificant. In detail, classifications have a moderate negative correlation with the dependent variable (r = -0.439) with a p-value of 0.204; while damages showed a weak negative correlation (r = -0.200) with a p-value of 0.580.

With regard to these two components, the p-values are more than the common threshold of 0.05, indicating insufficient evidence to conclude in favor of a significant relationship. The overall findings suggest that of the analyzed variables, only casualties exhibit a strong and significant inverse relationship with the dependent variable, while classifications and damages do not uphold a statistically significant relationship within this dataset. This also leads to a conclusion that casualties may impose higher significance and therefore should be given a second look in terms of analysis and intervention.

FIRE PREVENTION MEASURES TAKEN BY THE BFP

Based on the fire prevention measures and operational practices of the Bureau of Fire Protection (BFP), it is evident that their personnel place strong emphasis on various strategies and competencies to minimize fire risks and mitigate fire-related damages. A major feature of their prevention approach is situational awareness, which entails continuous examination of the environment, the fire, and new threats linked to escapes and the location of their associate responders. They are, therefore, in a better position to make timely and perfectly safe and effective decisions.

Moreover, BFP considers the ability to decide under pressure as a very important competency because incidents of fire are very time critical and need precise judgments. Effective scene size-up is conducted to determine the nature and extent of the fire, with an appropriate response strategy formulated, taking in various conditions. Communication and coordination are significant features in the BFP because without these, you could end up having poorly executed fire prevention and suppression activities.

Technical firefighting training and that which enables firefighters to use the correct classification of fire types and tactical suppression techniques, as well as the proper use of firefighting tools and equipment such as self-contained breathing apparatus (SCBA), are under BFP prevention measures. Regular training, simulated drills, and preparedness of both on and off-duty personnel are called for improvement of response capability in most areas such as the urban areas and industrial zones.

What is more emphasized in the bureau is fitness and presence of mind, as firefighting requires both strength and mental ability. Priority is given to the right usage and maintenance of personnel protective equipment (PPE) for operation safety of a firefighter. On the community prevention side, fire safety education, hazard mapping, and information dissemination to the public on fire prevention will be actively pushed by BFP.

The bureau also admits to the challenges in logistics which include inadequate fire hydrants or access roads and

is now calling for the modernization and upgrade of firefighting equipment and facilities. All these preventive measures show the commitment of the BFP to ensuring public safety, protecting property, and enhancing the efficiency of fire service delivery.

PROPOSED MEASURES

The challenges continued to arise from fire incidents, more particularly in highly urbanized and densely populated places such as in the National Capital Region. Despite the efforts of the Bureau of Fire Protection and concerned agencies, there remain problems that impede the effective prevention, response to, and mitigation of fire-related disasters.

The Bureau of Fire Protection (BFP) in the National Capital Region (NCR) is beset by many more challenges, which have prevented up to now its full and effective response to fire incidents. Most-it was presented with the inadequate firefighting equipment identified by 86.83% of respondents. Improvements in logistics, which are manifested in the acquisition of fire trucks from 2010 to 2024, still had gaps. As of September 2024, there are 3,149 serviceable fire trucks in the country; 383 are unserviceable, while 68 are under repair. The absence of some essential personal protective equipment (PPE) added to the frustration. Despite having distributed 22,500 boots and 19,693 coats nationwide, there are insufficient numbers when viewed in light of the ever-increasing number of BFP personnel, currently comprising 37,569 uniformed fire officers. Among the dire figures is that, for just 10,571 Self-Contained Breathing Apparatuses. This makes many personnel exposed during risky operations in fire suppression.

The absence of personnel, which was cited by 81.51% of respondents, added more operational problems. The increment was obvious over the years for the BFP; in 2012, the personnel complement was only 15,782, and in 2024, it increased to 37,569. Today, the fire officer-population ratio of 1:3,039 is still far behind the ideal of 1:2,000. This pushes staff to be overextended and increases response time. The shortage also limits the deployment of adequate personnel across high-risk areas, particularly during simultaneous incidents.

Another major problem is public cooperation (53.78%), which manifests in problems with crowd control in some cases, late reporting of fires, or indeed refusals for fire inspections and drills. Insufficient water supplies (49.86%) and improper hastily developed urban areas (47.06%) also hinder effective firefighting, especially in slums where access is generally limited and hydrants are either absent or non-functional, particularly in rural and coastal barangays.

A lack of training and skills development (41.74%) and insufficient funding resources (41.18%) were also significant obstacles. The lack of opportunities for continuing education limits fire officers' preparation for emergencies that may not be typical. However, lack of funds affects the acquisition of not only equipment but also much of that needed to upgrade facilities and services supporting firefighting. Physical and psychological stress (36.69%) on firefighters also exists due to dangerous working conditions, long hours of labor, and the psychological strain due to witnessing trauma.

Environmental and institutional challenges were also put forward. Environmental hazards and climate change (35.57%) lead to wildfires and other intense fires more frequent than before. Other cited issues included internal governance and technological capacity problems manifested in punishments for fire inspections (31.37%) and lack of emergency communication systems (30.53%). Other recurring issues include weak building safety standards enforcement (22.41%) and poor monitoring of hazardous materials (22.13), as well as slow response time 21.29.

However, coordination gaps with the LGUs and emergency responders (20.17%), result in the delay of unified action during emergencies. Fire prevention programs (17.65%) and limited public fire drills (17.09%) are also of lesser priority, hence result in poor preparedness of the community. Other issues which are also identified by respondents are the lack of post-fire assessment and reporting (15.41%) as well as outdated fire codes that are not responsive to modern hazards (11.49%).

Last on the list of concerns facing BFP personnel are fire prevention strategies with no research to back it up (7.85%), issues of uniform and equipment (6.16%), the Meralco stations that have delayed operations in shutting

electric lines (4.48%), and finally, the absence of hydrants in rural or coastal areas (0.56%).

It is a wide array of issues that center around personnel, logistics, infrastructure, coordination, training, and policy, thereby underscoring the urgent need for a holistic and well-funded reform agenda to strengthen the fire prevention and suppression capabilities of the country. It is not only advantageous for these officers but also helpful in saving the lives and properties of the people around the community.

PLAN OF ACTION

The growing incidence and ferocity of fires in certain communities mount an urgent appeal for the enhancement of the capability and competency of BFP personnel. This Plan of Action thus recognizes that these capable and prepared firefighters are crucial for saving lives, property, and assets; hence it lays out a comprehensive strategy to fill gaps in fire management capabilities.

The plan of action deals with an extensive array of problems in firefighting and fire prevention, systematically linking identified problems to objectives, tasks, measures of performance, timelines, allocation of resources, and presumed outcomes. In so doing, this well-structured approach makes sure that each problem is dealt with through targeted interventions, creating a strong framework for improving fire safety in the very challenging urban scene of the NCR (the National Capital Region).

Beginning with the problem of inadequate firefighting equipment, restore that a needs assessment is conducted to procure new equipment and maintain it regularly to ensure functionality. Budget support of ₱7.5 million is allocated toward the purchasing and support of logistics within a one-year time frame. With NCR's soaring costs, this increased budget reflects a need for quality and durable equipment meeting urban requirements. The end result is an enhanced firefighting capability, which is vitally important for effective emergency response.

Recruiting and training firefighters aim to address the shortage of personnel, with a ₱5 million budget allotted for HR staff and training facilities for one year. A higher budget was allocated, as it must compete in the labor market of NCR, under the costs of periodic training sessions that provide as much quality as possible. The indicator for success is the number of recruits trained; thus, there will be adequate manpower available for fire emergencies within a densely populated area.

Through constant awareness campaigns and drills, public cooperation is targeted at an expenditure of ₱750,000, managed by the community relations and media teams. In the NCR, fire safety outcomes are greatly impacted by public compliance; hence, these initiatives seek to ensure a greater turnout and readiness of residents.

An inadequate water supply will be aided through coordination with local governments to install and repair fire hydrants at ₱3 million, covering the expense for one year. Due to the expected urban sprawl of NCR, access to even a limited number of properly working hydrants will facilitate timely firefighting; so, resource-allocation and strategic partnerships will ensure water availability in respect of fire hydrants.

Poor urban planning risks will be mitigated through joint efforts with urban planners to promote responsible fire zoning. As an ongoing initiative backed by ₱1 million, this entails the creation of a safer urban environment in light of the rapid development taking place in NCR.

Training and skills development will proceed through regular training and simulation activities costing ₱2 million, which can be expanded in order to secure the services of high-caliber trainers and the frequency of drills that are ultimately relevant in a metropolitan context.

By preparing annual budget proposals and lobbying efforts involving administrative and finance officers, funding insufficiency is addressed in order to ensure timely and stable financial backing, which is the backbone to sustained firefighting operations in NCR.

Understanding the rigorous pressure posed in an urban setting, the plan directs ₱700,000 toward mental health counseling and stress management workshops to ensure firefighter welfare, realizing the amplified psychological strains accessed by personnel in NCR.

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This plan further incorporates climate change and environmental threats into preparedness by risk assessments and firefighting protocols, thus considering the ongoing urban climate risks, with ₱1.2 million allocated for its implementation.

The proposed plan attacks the scourge of corruption in fire inspections by strengthening audits and creating anonymous reporting systems to uphold integrity, which in turn generates transparency and public trust, both critical in the institutional set-up of NCR.

Modernization of the emergency communications systems is implemented through the acquisition of modern radios and training on type protocols within a duration of six months at an earmarked budget of ₱2 million, thus ensuring reliable communication that is fundamental for rapid response to fires in urban settings.

Inspections of buildings are periodically conducted, and non-compliance gets sanctioned by imposing an ongoing budget of ₱1 million—for the enforcement of fire safety codes across dense NCR building environments.

Monitoring hazardous materials storage through protocols and audits—₱700,000 budget—aims to minimize fire-related incidents due to these hazards.

In order to overcome slow emergency responses, the plan optimizes dispatch systems and drills with a budget of ₱1.2 million over a period of six months, intending to promote rapid and reliable emergency responses in congested areas of NCR.

Multi-agency coordination with LGUs and emergency responders has been enhanced through protocols and joint exercises, under ₱700,000 funding to the ongoing project, in an effort to simplify multi-mandated urban emergency management.

Two main priorities are to involve communities in fire prevention work and to conduct public drills, with budgets of ₱500,000 and ₱600,000 respectively, with the goal of improving community readiness and fire prevention awareness.

The focus of improvements to post-fire assessment and reporting worth ₱500,000 is on the use of a standardized template and training for personnel, thereby assuring the timely and thorough review of incidents for ongoing learning.

Analysis and upgrading of the fire codes and regulations in one year's time, supported by 700,000 pesos, provides for the legal structures to be up-to-date in urban security.

Research-based fire prevention will be implemented via experiences and strategy, with 900,000 for two years encouraging evidence-based firefighting policies.

Issues pertaining to uniforms and equipment are answered by procuring and monitoring the distribution of gear so that firefighter safety will be enhanced along with their prestige; the budget provided for this is 2 million pesos. Coordination with Meralco should now be formalized under MOAs and joint drills, funded at ₱400,000, for expedited electric shutoff during fires—a matter of life and death to the electrically dense environment of NCR.

Hydrants installation is being prioritized with a ₱1.5 million budget to serve the rural and coastal areas of NCR, thus extending firefighting availability to areas outside urban centers.

Finally, by enhancing compliance in reporting through trainings and protocols, the ongoing budget of ₱200,000 strengthens the grassroots reporting of incidents and community awareness.

In summary, the plan we present represents a thinking outside the box when it comes to problem-solving steps and NCR-specific adaptations-increased budgeting, a greater focus on personnel development, formal institutional coordination, and mental health support-that capture a pragmatic and strategic perspective to

firefighting issues in a major metropolis. The comprehensive integration of resources, timelines, and activities to the plan ensures a substantial enhancement in firefighting capabilities for the NCR and a safer urban environment that feeds back into a more resilient community.

IMPLICATIONS OF THE STUDY TO PUBLIC ADMINISTRATION

The competence of Bureau of Fire Protection (BFP) personnel is crucial and multidimensional in contributing to socio-economic development by determining how an outcome related to fire incidents occurs within the minimum risk they pose to viable communities and how these communities would otherwise be prepared to face such incidents. Competent, adequately trained, skillful, and highly self-motivated fire personnel enable timely and effective fire emergency response action that significantly minimizes loss of lives, injury and damage to property, and destruction of critical infrastructure such as schools, hospitals, businesses, and transportation networks. It thus becomes necessary to protect this productive ability within the growth economy, as fires are capable of bringing commerce almost to a standstill as they're able to damage production structures while also devastating essential public and private assets. Business interruption would be shorter if fire incidents are contained or prevented at an earlier time, allowing businesses to remain operational and generate revenues, which in turn sustains jobs and the livelihood of families. These, in turn, give confidence to investors, increasing their participation by establishing ways for new investments and entrepreneurship-all for sustainable socio-economic development. An appropriately competent BFP cadre would further improve community resilience through raising public awareness of fire risks and safety education. Outreach and preventive programs train residents on reducing the chances of fires, as well as on measures taken to limit their effects, particularly in the most vulnerable areas that are exposed to hazards. Such proactive engagement is very crucial for protection against fire especially among marginalized and economically deprived populations living in high-risk zones where access to resources to recover from such hazards is very limited. These efforts also contribute to breaking this cycle of poverty brought about by disasters through lower severity and lower frequency of disaster events and thus also serve to advance equity in socio-economic development across communities.

On the contrary, if competency gaps exist among fire protection personnel with inadequate training, insufficient equipment, or poor organizational support, the consequences can be catastrophic. Ineffective fire management involves uncontrolled prolonged fires, resulting in catastrophic displacements, loss of homes, and an end to established businesses. These outcomes evoke very heavy financial strains on local government, which diverts limited developmental project resources and public service provision into emergency response, relief, and disaster reconstruction measures. This kind of spending slows down infrastructure development, inhibits service delivery, and weakens public administration in governance. Further, repeated fire disasters erode public confidence in various government agencies, as well as lead to reduced investor confidence, and further aggravate the socioeconomic inequalities in societies, as the poorer communities tend to suffer the most from inadequate fire protection.

Competent fire protection services can thus be said to promote development at a distance, simply because they serve to ensure the safety and continuity of other institutions like the schools and health centers in the realm of public affairs. When public facilities are dedicated to the full prevention of fire hazards, it guarantees that education will be delivered uninterruptedly and healthcare will be accessed without hindrance, which are foundational avenues for human capital development and eventual economic growth. In addition, through ensuring fire protection for critical infrastructure, competent BFP personnel maintain the functionality and attractiveness of urban and rural areas in general, which benefits tourism, commerce, and residential stability.

The mastery of BFP personnel becomes just one fundamental strand shackled together in the nexus woven between public safety and socio-economic development. Effective fire management accounts not just for losses and damage averted but primarily for the resilience it builds up in economic, equity in social matters, and growth in sustainability. Notably, thus, is the emphasis on investing by public administration in continuing capacity building, judicious allocation of resources, and strategic leadership to energize fire protection services. Such prep work prepares communities well against fire-related disasters so that they pursue their development agenda without necessary interruption from disasters that could have been avoided. Thus, upgrading the competency of BFP staff is more than a technical requirement; it is a strategic investment in the socio-economic future of regions and nations.

CONCLUSIONS

Drawing from the comprehensive analysis of data and field observations, this study concludes that the competencies of Bureau of Fire Protection (BFP) personnel play a pivotal role in influencing fire incident outcomes across the National Capital Region (NCR). The findings affirm that BFP staff possess commendable capabilities in fire classification, casualty management, and asset protection. However, persistent fire occurrences, erratic casualty trends, and significant property damage underscore the need for continual improvement in strategic preparedness and response mechanisms. While certain competencies correlate strongly with reduced injuries and improved response effectiveness, other variables—such as infrastructure limitations, urban planning issues, public cooperation, and water supply—significantly mediate the impact of BFP efforts. The study reinforces the need for integrated solutions: regular technical and physical training for firefighters, adequate logistical support, community engagement through awareness and drills, and systemic reforms in urban development and inter-agency collaboration. Ultimately, the competencies and resilience of BFP personnel are vital not only in managing fire emergencies but also in safeguarding lives, property, and the overall socio-economic stability of NCR communities.

RECOMMENDATIONS

In light of the study's findings and conclusions, the following recommendations are proposed to address the identified gaps in firefighter effectiveness and to support the continuous development of the Bureau of Fire Protection (BFP). First, the BFP should enhance and institutionalize fire classification training programs to ensure personnel are adept at identifying a broad spectrum of fire scenarios, including emerging and hybrid types. Regular refresher courses in casualty management and property protection are also essential to maintain a high level of operational readiness. Advanced data monitoring systems must be developed to evaluate fire trends and improve strategic deployment of resources. Moreover, the agency is encouraged to update fire response protocols annually and craft specialized strategies for damage minimization, particularly during peak fire periods.

Further, the BFP should investigate variables beyond those studied that affect fire classification accuracy and focus efforts on casualty reduction, which showed the strongest negative correlation with competency. Training programs should integrate decision-making under pressure, situational awareness, and enhanced communication protocols to improve coordination during emergencies. Comprehensive technical training covering suppression tactics, personal protective equipment (PPE), and SCBA usage should be prioritized, alongside wellness programs to ensure physical and mental fitness among personnel.

Community engagement should be strengthened through targeted fire safety education, drills, and participatory hazard mapping. On the operational side, urgent upgrades in firefighting tools, hydrant systems, and access infrastructure are required. Recruitment and standardized onboarding processes must be intensified to address personnel shortages and accelerate team readiness. Collaboration with local governments, urban planners, and water authorities is essential to improve infrastructure, ensure hydrant availability, and promote fire-resilient zoning. Lastly, continuous capacity-building efforts must be institutionalized to uphold the long-term effectiveness of BFP personnel, aligning fire safety with national goals for public welfare, economic stability, and disaster resilience.

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