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Capability of the Bureau of Fire Protection of Ilocos Sur in Responding to Emergencies

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Abstract – **The study determined the extent of the capability of the Bureau of Fire Protection (BFP) of Ilocos Sur in responding to emergencies in the year 2016. It also looked into the significant relationship between the extent of the capability of the respondents and their profile.**

The study is a descriptive-correlational method of research. The study involved the 69 BFP staff in selected municipalities of Ilocos Sur like Sto. Domingo, Bantay, Vigan, Caoayan, Santa and Narvacan. The number of respondents was taken through total enumeration. A questionnaire checklist formulated by the researchers based on the BFP Operational Procedures Manual was the primary data gathering tool used in the study. Some residents in the different municipalities were interviewed.

Frequency and percentage, mean and simple linear correlation analysis was the statistical tools used to treat and interpret the data needed in the study.

The findings of the research reveal that a substantial percentage of the respondents are 31-35 years old, males, married, baccalaureate degree, with family monthly income of Php 30,000-35,000, and with permanent status and attended national training. Of the six BFP Stations, Vigan BFP has the greatest number of supplies, equipment and vehicle used during fire operation procedures, and the least is Sto. Domingo BFP. Vigan BFP has four fire trucks, 31 fire hose, 17 fire boots, 29 fire helmet, 26 gloves, five life vest, one obstetrical kit, one spine board, one pulse oximeter and others. The extent of the capability of BFP in responding to emergencies is "Very High." There is a significant relationship between the extent of the capability of the respondents in attending to emergencies and family monthly income.

Keywords – **Firefighters, Fire Operations, Fire Safety, High Rise Buildings**

I. INTRODUCTION

The local government has direct responsibility for the safety of the people, knowledge of the situation and accompanying resource requirements, and proximity to both event and resources. It has its emergency services department that have the capability of responding to emergencies twenty four hours a day. They include law enforcement, fire/emergency medical services, and public works. They may also be referred to as emergency response personnel or first responders.

The Bureau of Fire Protection (BFP) of the Philippines is a government agency whose role is to suppress and prevent the outbreak of destructive fires, enforce relevant laws, and provide emergency medical and rescue services. However, the BFP faces an uphill struggle in the performance of its duties in a conflagration-prone nation such as the Philippines.

The country is saddled with aging and/or inadequately installed or constructed infrastructure, including electrical systems, which thus pose a significant fire risk. Additionally, the combination of two of the country's defining characteristics – extremely hot summers and drenching monsoon seasons – put the country's inadequate systems under their own particular sort of pressure year-round. Nor does the BFP get any respite during the holiday season, either. The Filipino's addiction to fireworks, especially during the Christmas, constitutes a further threat to life, livelihood, and property.

It is no stretch to say that consequently, the BFP has its work cut out for it. To make matters worse, since its creation, the BFP has come under scrutiny for having gained something of a reputation for corruption and inefficiency. However, much effort has also been expended over the years to bring the BFP to the level of competence and professionalism it needs to properly discharge its duties. (Sanchez, 2013).

Considerable knowledge, skill, and judgment are required to provide quality emergency medical services. High quality emergency medical services and first responders are an important part of any health care system. Many studies of pre-hospital services place greater emphasis on human factors, efficiency and continuous refinement of standards of practice. (Page, Sbat, Vasquez, Yalcin, 2013).

The lack of trained pre-hospital providers, modern equipment, and ambulance vehicles accounts for the challenges and short comings to provide quality emergency medical services. The BFP mission is to prevent and suppress destructive fires, investigate its causes, give emergency medical and rescue services, and enforce other fire related laws with the active involvement of the community. Its purpose is to ensure operational readiness of the EMS team on duty. (BFP Operational Procedures Manual, 2015).

This prompted the researchers to study the extent of the capability of the BFP in responding to emergencies in Ilocos Sur. The result of the study would somehow help determine as to what part of the operations they perform well and what part it needs to improve. Further, this would also support the Municipality and the Province of Ilocos Sur in formulating plans and policies that would even strengthen the services of the office. The Emergency Medical Technician Students of the College of Health Sciences of the University of Northern Philippines would also benefit from the improved performance of the office.

II. METHODOLOGY

The study used the descriptive-correlational method of research. The respondents are the 69 BFP staff in selected municipalities of Ilocos Sur. The questionnaire was formulated by the researchers based on the BFP Operations Manual, 2015. Permission was sought from the Fire Marshal through a letter. The profile of the respondents is determined through the use of frequency and percentage. Mean determined the extent of the capability of the BFP of Ilocos Sur. Simple linear correlation analysis looked into the relationship between the extent of the capability of the BFP of Ilocos Sur in responding to emergencies and profile.

III. RESULTS AND DISCUSSIONS

Profile of the Respondents

A substantial percentage are 31 – 35 years old. A great majority are males, graduates of Baccalaureate Degree with permanent status of appointment. Majority are married. A great number have a monthly income ranging from Php 30,000 – 35,000. Most of them attended national training.

Of the six BFP Stations, Vigan BFP has the greatest number of supplies, equipment, and vehicle used during fire operation procedures, and the least is Sto. Domingo BFP. Vigan BFP has four fire trucks, 31 fire hose, 17 boots, 29 helmet, 26 gloves, five life vest, one obstetrical kit, one spine board, one pulse oximeter and others.

Extent of the Capability of the BFP of Ilocos Sur in Responding to Emergencies

Table I presents the extent of the capability of the BFP of Ilocos Sur in responding to emergencies along Fire Safety Enforcement.

Table I. Mean Ratings Showing the Extent of the Capability of the BFP of Ilocos Sur in Responding to Emergencies Along Fire Safety Enforcement.

Fire Safety Enforcement	Mean	DR
Fire Safety Inspection (Pre-construction Phase)		
1. The plan evaluator (PE), upon receipt of plans and specifications, determines whether an on-site inspection is required and if so, prepares the inspection order (IO).	4.67	A
2. The PE then presents the prepared IO together with the plans to the Chief, Fire Safety Enforcement Section (FSES) for evaluation and signature of the IO	4.83	A
3. The Chief, FSES forwards the IO, together with the plans to the City/Municipal Fire Marshal (CMFM) for his/her approval.	4.93	A
4. The PE proceeds to the site and requests acknowledgment of the IO from any responsible person in the building, structure or facility.	4.87	A
6. The PE conducts an ocular inspection of the building/structure/facility.	4.99	A
7. The PE prepares an After Inspection Report (AIR) within 24 hours after receipt of the IO as the basis for his/her evaluation of the submitted plans and specifications.	4.86	A
Fire Safety Inspection (Construction Phase)		
1. By the issued Fire Safety Checklist (FSC) on the building plan, the PE prepares an IO and forwards to the Chief, FSES for his signature.	4.71	A
2. The Chief, FSES countersigns the IO and forwards the same to the City/Municipal Fire Marshal for approval.	4.97	A
3. The City/Municipal Fire Marshal signs the IO.	4.97	A
4. The PE proceeds to the site and requests acknowledgment of the IO from any responsible person in the building, structure or facility.	4.87	A
5. The PE inspects the construction, renovation, modification or alteration and prepares the AIR in duplicate copies immediately after the inspection leaving a copy for the owner/project manager/contractor or any duly authorized representative.	4.86	A
6. Within three years upon receipt of the IO, a copy of the AIR is given to the Chief, FSES.	4.91	A
7. The Chief, FSES evaluates the AIR and, in case of violations/deficiencies, prepares the written notice addressed to the owner/project manager/contractor or any duly authorized representative in the construction.	4.91	A
8. The C/MFM signs the notice and forwards the same to the PE or service of notice.	4.91	A
9. The PE serves the original copy of the notice to owner/project manager/contractor or any duly authorized representative and another copy to the Office of the Building Official.	4.54	A
Posting of Warnings		
1. The fire safety inspector or any BFP personnel designated or assigned to serve the NTCV puts a corresponding signage in front of the building. The notice bears the words “WARNING: THIS BUILDING/STRUCTURE IS A FIRE HAZARD.”	4.87	A
Overall Mean Rating	**4.85**	**Very High**

Norms:

Range	Item Descriptive Rating	Overall Descriptive Rating
4.21 – 5.0	Always (A)	Very High (VH)
3.41 – 4.20	Often (O)	High (H)
2.61 – 3.40	Sometimes (So)	Moderate (M)
1.81 – 2.60	Seldom (Se)	Low (L)
1.00 – 1.80	Never (N)	Very Low (VL)

The respondents have "Very High" extent of capability in responding to emergencies along fire safety enforcement as manifested by the overall mean of 4.85. This means that the respondents are capable of enforcing fire safety by doing the fire safety inspection during pre-construction phase, construction phase and posting of warnings.

On fire safety inspection (pre-construction phase), the respondents answered that the plan evaluator "Always" conduct an ocular inspection of the building/ structure/ facility ($\bar{x}$=4.99). On fire safety inspection (construction phase), the respondents also answered that the Chief, Fire Safety Enforcement Section (FSES) "Always" countersigns the IO and forwards the same to the City/Municipal Fire Marshal for approval and the City/Municipal Fire Marshal signs the IO ($\bar{x}$=4.97) respectively, and on posting of warnings, the respondents "Always" see to it that there should be a corresponding signage in front of the building and the notice bears the words "WARNING: THIS BUILDING/STRUCTURE IS A FIRE HAZARD ($\bar{x}$=4.87)."

The finding implies that following the protocol in their operations such as planning, forwarding of signed orders and posting of warnings like signage ensures delivery of quality public service. This is backed up by the result of the interview in the community that the BFP personnel always conduct an ocular inspection on pre-construction phase because it is a requirement for having a building permit and as stated by the community that they usually visit the construction site to ensure safety for the residents and the laborer.

The Fire Code of the Philippine of 2008 and in compliance with Section 14.0.0.3 of its Implementing Rules and Regulations (IRR) guidelines are prescribed to promote public safety relative to application and approval/acceptance of alternative and/or remedial fire safety measures for existing public or private buildings, facilities or structures and their premises or portion thereof. These implementing guidelines shall apply to all existing private or public buildings, facilities or structures and their premises or portion thereof erected or constructed before the effectivity of RA 9514 and its IRR, where compliance with the fire safety requirements as specified in the IRR of RA 9514 will compromise the structural stability/integrity of the said buildings, facilities or structures which necessitates alternative and/or remedial fire safety measures. (Fire Safety Enforcement Manual, 2013).

Table II shows the extent of the capability of the BFP in responding to emergencies along Firefighting Operations.

Table II. Mean Ratings Showing the Extent of the Capability of the BFP of Ilocos Sur in Responding to Emergencies Along Firefighting Operations

Firefighting Operations	Mean	DR
Fire in High-Rise Building		
1. All responding personnel wear appropriate Personal Protective Equipment (PPE)	4.84	A
2. The Incident Commander (IC) coordinates with the management of the building for initial gathering of information and initiates transfer of command.	4.93	A
3. The IC activates and deploys Evacuation, Search, and Rescue, Emergency Medical Services (EMS) and Hazardous Materials (HAZMAT) response team/s, if needed.	4.91	A
4. The IC conducts Damage Assessment and Need Analysis (DANA) and reports the same to the next higher office.	4.91	A
5. The IC directs the conduct of fire operations by the phases of firefighting, whenever applicable.	4.90	A
6. The IC declares "fire under control" when there is no probability for the fire to escalate.	4.90	A
7. Responding personnel performs overhauling until the fire is fully extinguished.	4.78	A
8. The IC declares "fire out" after determination of total extinguishment.	4.74	A
9. The IC directs the BFP investigators to continue the conduct of the investigation.	4.51	A
10. The responding unit returns to the station after demobilization only.	4.17	O
11. The Fire Marshal, together with the firefighting unit, conducts post fire analysis.	4.59	A
12. The Station's Chief Operations submits After Fire Operations Report to the Fire Marshal for subsequent submission to the next higher office.	4.90	A
Fire in LPG Installation		
1. All first responders respond to the incident in complete PPE.	4.87	A
2. Highest Ranking Personnel (HRP) assumes command as Incident Commander (IC) and activates Incident Command System (ICS).	4.93	A
3. The IC activates and deploys Evacuation, Search and Rescue, Emergency Medical Services (EMS) and Hazardous Materials (HAZMAT) response team/s, if needed.	4.90	A
4. The IC directs the conduct of Damage Assessment and Need Analysis (DANA) and reports the same to the next higher office.	4.87	A

Firefighting Operations	Mean	DR
Fire in High-Rise Building		
5. The IC recognizes and identifies the materials involved and its storage or locations for possible Boiling Liquid Expanding Vapor Explosion (BLEVE).	4.88	A
6. The responders stop the leak, if the fire is not present.	4.87	A
7. Firefighting unit observes isolation distance at least 800 meters radius, if the fire is involved.	4.84	A
8. Responders position the equipment and personnel behind the structure or any natural barrier.	4.86	A
9. Responders place monitor nozzle towards the storage tank/tank truck.	4.84	A
10. Firefighting unit fights the fire from a distance of at least 800 meters using unmanned hose stand or monitor nozzle.	4.88	A
11. Firefighting unit floods containers with water until the fire is out.	4.91	A
12. The IC declares "fire under control" when there is no probability for the fire to escalate.	4.91	A
13. Firefighting unit conducts overhauling.	4.93	A
14. The IC declares "fire out" upon determination of total extinguishment	4.91	A
15. The IC directs the BFP investigators to continue the conduct of the investigation.	4.88	A
16. The Fire Marshal, together with the firefighting unit, performs post fire analysis.	4.81	A
17. The station's Chief Operations submits After Fire Operation Report to the Fire Marshal for subsequent submission to the next higher office.	4.90	A
Overall Mean Rating	**4.83**	**Very High**

The respondents have "Very High" extent of capability in responding to emergencies regarding firefighting operations as indicated with the overall mean of 4.83. This means that the personnel is very able to respond in firefighting operations because it is their main responsibility and that they have undergone training for six months before they are assigned to the agency.

Further scrutiny, during the operations in high rise building, the respondents "Always" check that the Incident Commander (IC) coordinates with the management for initial gathering of information and initiates transfer of command ($\bar{x}$ = 4.93). On fire in LPG installation, the respondents answered that Highest Ranking Personnel (HRP) "Always" assumes command as Incident Commander (IC) and activates Incident Command System (ICS) ($\bar{x}$ = 4.93).

As firefighters are generally exposed to high heat build-up as fire develops between the concrete floor slabs their time at the fire is often reduced to 10-15 minutes. This means relief crews should be ready for deployment from the forward command to arrive on the fire floor and at the nozzle ahead of time. In order to establish an optimum response and intervention model for high-rise tower fires it is important to analyse and prioritise the command roles and tactical objectives that are achievable according to the weight of attack in a staffing and command perspective. (Grimwood, 2015).

These results were backed up by the interview of the residents in the community that if fire cases arise, the BFP immediately responded to calls and immediately traverse to the location of fire for approximately 5-15 minutes. The findings imply that the respondents can establish an incident command system when they respond to call for service.

Gainey, 2015 stated that in the fire service, communication allows the opportunity to have all orders given at the highest level of command follow downward to the proper level necessary to carry the goal out, while all in the chain are aware of the actions and their effect on the overall situation.

Table III depicts the extent of the capability of the BFP of Ilocos Sur in responding to emergencies along emergency medical services.

Table III. Mean Ratings Showing the Extent of the Capability of the BFP of Ilocos Sur in Responding to Emergencies Along Emergency Medical Services

Emergency Medical Services	Mean	DR
Response to Medical Emergencies		
1. The team leader or assigned crew gathers all initial information from dispatch.	4.90	A
1.1. exact location/address to include reference to landmarks such as public infrastructure/building, restaurants, park, school and others.	4.93	A
2.2 nature and severity of injury, illness or accident.	4.93	A
2.3 information of possible victims/patients, status and number; and	4.91	A
2.4 particular problems or other pertinent information of the scene (Advance Cardiac Life Support Needed, Police Assistance Needed)	4.90	A
2. The team leader or crew reports to dispatch, confirm response and notes time.	4.90	A
3. The ambulance crew wears EMS vest and proper personal protective equipment (PPE).	4.46	A
4. The ambulance crew readies additional equipment to be carried (scoop stretcher, C-collar, splints, portable oxygen tank, automated external defibrillator, CPR mask/BVM).	4.65	A
5. The team leader or crew member prepares patient care report (PCR)	4.68	A
6. The team leader introduces self and asks for consent before engaging to the patient.	4.90	A
7. The team leader or assigned crew conducts proper assessment, initiates treatment or medical management within the scope of the level of training and standard of care.	4.87	A
8. The ambulance crew documents all interventions given in the PCR.	4.71	A

Emergency Medical Services	Mean	DR
9. The team transports the patient if necessary.	4.84	A
10. The team leader of crew coordinates with the Department of Health (DOH) Operation Center for hospital transport.	4.58	A
11. The EMS team endorses the patient and PCR to emergency room personnel (if transported), and asks permission to leave the hospital or health facility.	4.87	A
12. The ambulance crew airs out the ambulance by leaving the doors open for 5-10 minutes before returning to base. Use aerosols/disinfectants spray to sanitize the ambulance.	4.51	A
13. Any member of the EMS team notifies dispatch that you are leaving the hospital.	4.65	A
14. Any member of the EMS team notifies dispatch o the arrival at EMS base.	4.67	A
15. The ambulance crew cleans, disinfects the ambulance and equipment and discards all soiled supplies used like gauze, gloves and others.	4.81	A
16. The assigned ambulance crew makes an inventory and re stock supplies.	4.84	A
17. The team leader or crew member completes and files any additional reports.	4.88	A
18. The team leader conducts defusing/debriefing or post run evaluation as needed.	4.72	A
On Vehicular Emergencies		
1. The team leader or assigned crew gathers all initial information from dispatch	4.87	A
1.1 Exact location/address to include reference to landmarks such as public infrastructure/building restaurants, park, school and others.	4.94	A
1.2 Nature and severity of injury, illness or incident.	4.93	A
1.3 Information of possible victims/patients status and number; and	4.90	A
1.4 Special problems or other pertinent information of the scene (Advance Cardiac Life Support Needed, Police Assistance Needed)	4.87	A
2. The team leader or crew reports to dispatch, confirm response, and notes time.	4.80	A
3. The ambulance crew wears EMS vest and proper personal protective equipment.	4.77	A
4. The ambulance crew readies additional equipment to be carried (scoop stretcher, C-collar, splints, portable oxygen tank, automated external defibrillator, CPR mask, BVM).	4.81	A
5. The team leader or crew member prepares patient care report (PCR).	4.80	A
6. The team leader introduces self and asks for consent before engaging to the patient.	4.87	A
7. The team leader physically stabilizes the vehicle and checks for leaks, before managing the patient inside an accident vehicle.	4.84	A
8. The team leader turns off the ignition key. For automatic transmissions, place the gear shift to park and for manual transmission, use hand break.	4.86	A
9. The team leader disconnects battery cables (positive and negative).	4.74	A
10. The team leader or crew conducts a proper assessment, places C-collar if needed, and if the patient is pinned down, request for special rescue unit (SRU) to effect extrication.	4.80	A
11. The team leader or assigned crew conducts proper assessment, initiates treatment or medical management within the scope of the level of training and standard of care.	4.84	A
12. The ambulance crew documents all interventions given in the PCR.	4.74	A
13. The team transports the patient if necessary.	4.81	A
14. Team leader or crew coordinates with the Department of Health (DOH) Operation Center for Hospital Transport.	4.67	A
15. The EMS team endorses the patient and PCR to emergency room personnel (if transported), and asks permission to leave the hospital or health facility.	4.87	A
16. The ambulance crew airs out the ambulance by leaving the doors open for 5-10 minutes before returning to base. Use aerosols/disinfectant spray to sanitize the ambulance.	4.78	A
17. Any member of the EMS team notifies dispatch of leaving the hospital.	4.83	A
18. Any member of the EMS team informs dispatch of the arrival at the EMS base.	4.77	A
19. The ambulance crew cleans, disinfects the ambulance and equipment, and discards all soiled supplies used like gauze, gloves and others.	4.84	A
20. The assigned ambulance crew makes an inventory and re stock supplies.	4.80	A
21. The team leader or crew member completes and files any additional reports.	4.84	A
22. The team leader conducts defusing/debriefing or post-run evaluation as needed.	4.83	A
Overall Mean Rating	**4.80**	**Very High**

The respondents have "Very High" extent of capability regarding emergency medical services as manifested by the overall mean 4.80. It means that the respondents are very able in responding to emergency medical cases. This is because the personnel who were assigned to emergency medical services are registered nurses or graduates of allied health courses and have undergone training on basic first aid, basic and advanced life support and basic rescue techniques.

Further, along response to medical emergencies the respondents answered that the team leader or assigned crew "Always" gathers all initial information from dispatch ($\bar{x}$ = 4.90) on exact location/address to include reference to landmarks such as public infrastructure/building, restaurants, park, school, etc. and nature and severity of injury, illness or accident ($\bar{x}$ = 4.93), information of possible victims/patients, status and number ($\bar{x}$ = 4.91); and particular problems or other pertinent information of the

scene (Advance Cardiac Life Support Needed, Police Assistance Needed) ($\bar{x}$ = 4.90).

On vehicular emergencies; the respondents stated that the team leader or assigned crew "Always" gathers all initial information from dispatch ($\bar{x}$ = 4.87) on exact location/address to include reference to landmarks such as public infrastructure/building, restaurants, park, school, etc; ($\bar{x}$ = 4.94), nature and severity of injury, illness or accident ($\bar{x}$ = 4.93), information of possible victims/patients, status and number ($\bar{x}$ = 4.90); and particular problems or other pertinent information of the scene (Advance Cardiac Life Support Needed, Police Assistance Needed) ($\bar{x}$ = 4.87). It means that the respondents can gather basic information from a caller like the location/address because they know that this is the most significant information obtained for proper and immediate action. This is also supplemented by the result of an interview conducted in the community that BFP personnel specifically in Caoayan, Ilocos Sur, as observed by the people are the first person responding to vehicular accidents and they transport victims from the location of accident to the nearest hospital. As well as most of the time they are requested to bring patients from their home to hospital and vice versa because they have their own ambulance.

Maurtua, 2017 stated that in an effort to reinforce the BFP to act as a first responder to both fire alarms and other medical emergency calls, a new strategy is being put in place. A bill proposed by house leader's calls for fire stations to have trained paramedics added on duty at all times to be a requirement. The bill was intended to make the BFP's staff better trained and equipped when responding to accidents, medical emergencies calls, or even terror attacks. It would offer selective training for the nation's next generation of firefighters as certified paramedics or emergency medical technicians.

Negros Daily Bulletin, 2016 reports that the BFP has evolved from firefighters to emergency medical responders to rescue teams after twenty five years. From its original mandate of just being mere fire prevention and fire suppression, the BFP now is a multi-faceted bureau whose functions other than fire prevention and fire suppression now include emergency medical service and fire rescue.

Table IV presents the extent of the capability of the BFP in responding to emergencies along special operations.

Table IV. Mean Ratings Showing the Extent of the Capability of the BFP of Ilocos Sur in Responding to Emergencies Along Special Operations

Special Operations	Mean	DR
Fire Ground Rescue Operation		
1. The team leader ensures resource operability at all times.	4.90	A
2. After the COMMEL receives the distress call, the SRU team leader relays the information to his immediate supervisor.	4.88	A
3. Team documenter gathers necessary information from the dispatch center before the response team leaves the base.	4.87	A
4. The team radio operator seeks clearance from the dispatch center before proceeding to the location of the incident.	4.86	A
5. The first team to arrive coordinates with the Incident Commander.	4.91	A
6. The SRU Team Leader acquires real-time information regarding trapped victims and determines the mode of operation (Rescue or Recovery) based on the survivability profile of the victim/s (This includes factors such as the location of the victims(s) and elapsed time since the fire started incident occurred).	4.90	A
7. The SRU Team Leader/Safety Officer assures that all personnel is wearing appropriate PPE.	4.88	A
8. The SRU Team Logistics prepares all the needed equipment for the fire ground SAR Operations.	4.88	A
9. The SRU Team Leader Sizes Up and gathers necessary data such as floor plans and other information relevant to the location of the victim/s.	4.90	A
10. The SRU Team Leader briefs entry teams (includes exterior size-up, exit routes, burned areas, and victim/s exact or probable locations).	4.88	A
11. The BACO ensures the team's safe entry at all times.	4.87	A
12. The SRU Team Leader orders entry in pairs.	4.88	A
13. Entry Team provides an anchor point for easy egress if possible.	4.88	A
14. The SRU Team Leader establishes search priorities.	4.88	A
15. The SRU Team Leader assigns RIT for immediate pull-out or rescue of entry teams.	4.87	A
16. The Entry Team locates the victim and obtain information about the extent of the fire.	4.87	A
17. Another member of the team create ventilations and check structural safety.	4.88	A
18. Entry Team checks and marks all searched area and gives updates to the Team Leader.	4.91	A
19. If the victim is found, Entry Team checks for signs of life provides respiratory protection if possible and brings the victim to a safer area.	4.91	A
20. The Team immediately turns over the victim to the EMS.	4.84	A
21. If the victim is already dead, the Team follows management of the dead and the missing protocol.	4.90	A
22. The Team Leader gives updates to the IC and assists in fire suppression operation when needed.	4.90	A
23. The Team Leader seeks incident Commander's or Operations Chief's advice for them checkout.	4.87	A
24. Team Leader ensures personnel accountability.	4.87	A
25. The Team Logistics officer recovers all tools and equipment used in the rescue operation.	4.88	A
26. The Response Team returns to base with all the equipment.	4.87	A
27. The Team Leader considers a Post Incident and Critique (may be more appropriate at a later date).	4.88	A
Overall Mean Rating	**4.88**	**Very High**

The respondents have "Very High" extent of capability in responding emergencies regarding special operations specifically on fire ground rescue operation with the overall mean of 4.88. It means that the respondents are capable in their safety operations during fire ground rescue operation.

During the operation, it is "Always" the first team to arrive who coordinates with the Incident Commander, Entry Team checks and marks all searched area and gives updates to the team leader and if the victim is found, entry team checks for signs of life, provides respiratory protection if possible and brings the victim to a safer area ($\bar{x} = 4.91$). This means that the respondents are capable of doing their job as rescuers during special operations like fire ground rescue operation. They follow orders from the Incident Commander and when victims have been found, they perform lifesaving procedures as needed such as protecting the airway and bringing the victims to a safer area. They can perform such procedures because they attended relevant training and seminars on rescue operations.

Sanchez, 2013 stated that the BFP makes use of its established network to augment its resources with the help of contributions from the private sector. Properly trained volunteer firefighters, who are under the command of the BFP fire ground commander during any conflagration, are of great help to the agency since they provide assistance where and when necessary. These volunteers utilize their own equipment in many cases – and doing so takes significant pressure off the bureau itself.

Table V presents the extent of the capability of the BFP in responding to emergencies along fire/arson investigation.

Table V. Mean Ratings Showing the Extent of the Capability of the BFP of Ilocos Sur in Responding to Emergencies Along Fire/Arson Investigation

Fire/Arson Investigation	Mean	DR
Fire Scene Documentation		
1. Fire Scene Sketch Preparer and Fire Scene Photographer ensure availability of all tools and equipment they need for the investigation.	4.94	A
2. Fire Scene Sketch Preparer prepares a detailed illustration of the interior and exterior portion of the fire scene, illustration of the Area of Fire Origin and the Point of Fire Origin, Fire Spread Pattern, affected and unaffected areas at the fire scene.	4.94	A
3. Fire Scene Photographer photographs the fire scene in large and close-up angles for detailed and sequential presentation.	4.93	A
Submission of Pertinent Documents for Investigation		
4. Fire Arson Investigator (FAI) prepares the LIST OF DOCUMENTS needed to accomplished/ submitted by the fire victim/s, building occupant/s and other parties affected by the fire. The required documents are listed inform FAI-02: Required Documents for Investigation. Documents to be obtained from the fire victim vary based on the TYPE OF OCCUPANCY or the INVOLVED STRUCTURE gutted by fire.	4.96	A
5. FAI prepares and submits the mandatory reports within the reglementary period of submission.	4.94	A
Collection And Preservation Of Evidence		
6. FAI prepares the apparatus used for the collection of evidence.	4.91	A
7. FAI identifies the collected physical evidence found at the fire scene that has Evidentiary Value in the conduct of fire investigation.	4.94	A
8. Evidence Recovery Personnel and Custodian coordinate with Fire Scene Sketch Prepare for the illustrations of the position and location of all pieces of evidence collected.	4.96	A
9. Fire Arson Investigator photographs the pieces of evidence to be collected before lifting and should be in the presence of a witness independent from the Fire Arson Investigation Team.	4.93	A
10. FAI properly documents, packs, seals and labels the pieces of evidence recovered before transportation and submission to Arson Laboratory Section BP-NHQ, within 72 hours upon lifting from the fire scene, for laboratory examination.	4.93	A
11. FAI records/documents, collect and itemize in detailed format all the recovered pieces of evidence using the Evidence Collection and Recovery Record (ECRR)	4.96	A
12. FAI attaches the copy of the Evidence Collection and Recovery Record (ECRR) to the Evidence Chain of Custody (ECC) form.	4.94	A
Interview And Questioning Of Witnesses		
13. FAI issues Invitation Letter to all witnesses to appear before the Office of the Investigation and Intelligence concerned for a formal interview.	4.93	A
14. FAI requires the witness to execute and sign his/her Sworn Statement under oath, and have the same duly subscribed and sworn to before a person legally authorized to administer oath (Notary Public, Prosecutor, Clerk of Courts and Judges) or at least a member of the BFP investigation team with the rank of Fire Inspector.	4.96	A
15. FAI conducts an interview and questioning to other experts/professionals who can provide relevant information about the occurrence of the fire.	4.91	A
Conduct Fire Cause Determination Procedure		
16. FAI collects data by observation, or other direct data gathering means.	4.94	A
17. FAI analyses collected data based on acquired knowledge through training, experience, and expertise.	4.96	A
18. FAI develops the hypothesis from gathered data using inductive reasoning.	4.96	A
19. FAI tests the hypothesis if it can stand the test of careful and serious challenge.	4.93	A

Fire/Arson Investigation	Mean	DR
20. FAI selects final hypothesis.	4.96	A
Submit Mandatory Report		
21. Fire Arson Investigation Team submits Progress Investigation Report (PIR) within seven days from the inception of the investigation to MFM/CFM copy furnished DFM, PFM, RD, Chief, BFP thru IID, BFP-NHQ.	4.93	A
22. Fire Arson Investigation Team submits Final Investigation Report (FIR) within 45 days from the inception of the investigation to MFM/CFM copy furnished DFM, PFM, RD, Chief, BFP thru IID, BFP-NHQ.	4.93	A
Overall Mean Rating	**4.94**	**Very High**

The extent of the capability of the BFP in responding to emergencies along fire/arson investigation is "Very High" as supported with the mean 4.94. It means that the respondents are capable of conducting fire/arson investigation like fire scene documentation, collection and preservation of evidence, interview and questioning of witnesses and conducting fire cause determination procedure.

When taken singly, on fire scene investigation, the Fire Arson Investigator "Always" prepares the list of documents needed to accomplished/ submitted by the fire victim/s, building occupant/s and other parties affected by the fire. The required documents are listed in form FAI-02: Required Documents for investigation. Documents to be obtained from the fire victim vary based on the type of occupancy or the involved structure gutted by fire ($\bar{x}$ = 4.96). It means that the personnel should see to it that all the required documents and checklist for investigation should be filled up correctly and accurately to have a basis in declaring the cause of the fire.

Further, on collection and preservation of evidence, the respondents answered that "Always", the evidence recovery personnel and custodian coordinates with Fire Scene Sketch Prepare for the illustrations of the position and location of all pieces of evidence collected, FAI fully records/documents and collect and itemize in detailed format all the recovered pieces of evidence using the Evidence Collection and Recovery Record ($\bar{x}$ = 4.96). It means that it is imperative that the personnel should collect enough, accurate and valid data as their basis in deciding the result of the investigation. This is supported by the response of the people that were interviewed that after the fire had been declared controlled, the fire inspector remains at the scene to conduct further investigation to determine the cause of fire, casualties, and cost of damage.

Once a fire is extinguished, the officer in charge of the incident initiates a fire investigation to ascertain the cause of a fire. On occasions a specialist fire safety officer will take over when more time and expertise is required. The resulting information is forwarded to the appropriate government department who compiles national statistics. When these statistics are analyzed they can identify areas where fire prevention measures can be introduced to reduce fire losses. (https://www.firesafe.org.uk/fire-investigation/).

The Extent of Capability of the BFP in responding to Emergencies along Disaster Management is shown in Table VI.

Table VI. Mean Ratings Showing the Extent of Capability of the BFP of Ilocos Sur in Responding to Emergencies Along Disaster Management

Disaster Management	Mean	DR
1. The Fire Marshal or his duly authorized representative formulates Contingency Plan for typhoons and floods and orients his personnel about the said plan.	4.96	A
2. The Fire Marshal or his duly authorized representative advises disaster response team with its equipment to standby.	4.96	A
3. The Fire Marshal or his duly authorized representative attends the LDRRMC meeting.	4.96	A
4. The Fire Marshal or his duly authorized representative coordinates with other government agencies in the conduct of disaster response operation/support needed.	4.96	A
4. The Fire Marshal or his duly authorized representative coordinates with other government agencies in the conduct of disaster response operation/support needed.	4.87	A
6. The Fire Marshal or his duly authorized representative to activate the search, rescue and retrieval (SRR) teams.	4.90	A
7. The Fire Marshal or his duly authorized representative updates the Mayor/LDRRMC/IC on the availability of resources (personnel and equipment) for the response or SAR operations.	4.96	A
8.The Fire Marshal or his duly authorized representative raises the alert based on the prevailing situation in their respective Fire Stations.	4.93	A
9. The Fire Marshal or his duly authorized representative issues recall order to all on leave and off duty personnel.	4.91	A
10. The Fire Marshal or his duly authorized representative accounts all personnel who reported to the station.	4.87	A

11. The Fire Marshal or his duly authorized representative mobilizes volunteer fire brigades and other force multipliers.	4.83	A
12. The Fire Marshal or his duly authorized representative designates personnel who will assist in the medical, clearing, evacuation, and information dissemination operations.	4.86	A
13. The Fire Marshal or his duly authorized representative directs his/her operation officer to assist in providing vehicular and personnel support (if necessary) fir ore-emotive and force evacuation of communities/families.	4.86	A
14. The Fire Marshal or his duly authorized representative pre-positions personnel to assist in the clearing, evacuation, and information dissemination.	4.88	A
15. The Fire Marshal or his duly authorized representative direct duty personnel to assist in the delivery of water to the evacuation centers.	4.88	A
16. The Fire Marshal or his duly authorized representative direct duty personnel to assist in clearing routes to ensure faster delivery of relief goods/supplies/equipment through cleaning/flushing of vital structures and by taking down billboard pruning trees and clearing canals.	4.86	A
17. The Fire Marshal or his duly authorized representative assists in the assessment if other structures or places as additional to the pre-identified evacuation centers.	4.83	A
18. The Fire Marshal or his duly authorized representative notifies the HHQ through Situation Report.	4.90	A
19. The Fire Marshal or his duly authorized representative alerts Disaster Response Team (DRT)	4.86	A
20. The Fire Marshal or his duly authorized representative advise DRT to secure themselves from the clear and present danger brought by the landfall of the typhoon.	4.86	A
21. The Fire Marshal or his duly authorized representative withdraws his/her operating teams upon imminent danger and direct them on standby at EOC or seek shelter at a safe area in their area of operations.	4.88	A
22. The Fire Marshal or his duly authorized representative directs the SRR team to conduct Search, Rescue, and Retrieval, and Evacuation Operations in the event of on going devastation in the area of responsibility, IF POSSIBLE.	4.87	A
23. The Fire Marshal or his duly authorized representative notifies HHQ through Situation Report.	4.88	A
24. The Fire Marshal or his duly authorized representative continues to provide HHQ with updates through Situation Report.	4.88	A
25. The Fire Marshal or his duly authorized representative continues to mobilize volunteer fire brigades and other force multipliers.	4.81	A
26. The Fire Marshal or his duly authorized representative mobilizes the SRR Team.	4.87	A
27. The Fire Marshal or his duly authorized representative direct duty personnel to assist in the delivery of water to the evacuation center.	4.86	A
28. The Fire Marshal or his duly authorized representative direct duty personnel to assist in the delivery of water to evacuation centers.	4.86	A
29. The Fire Marshal or his duly authorized representative direct duty to personnel to assist in cutting uprooted trees causing road obstruction.	4.90	A
30. The Fire Marshal or his duly authorized representative direct duty personnel to assist in clearing roads.	4.90	A
31. The Fire Marshal or his duly authorized representative directs his/her operation officer to report to the electric and water cooperatives for the repair of damaged water and power lines.	4.88	A
32. The Fire Marshal or his duly authorized representative coordinates with the Mayor/LDRRMO/IC on the availability of BFP personnel for possible deployment.	4.96	A
33. The Fire Marshal or his duly authorized representative directs his/ her operation officer to check the serviceability of lifelines in the evacuation centers for subsequent reporting to the officers concerned.	4.90	A
34. The Fire Marshal or his duly authorized representative submits After Operation Report to the HHQ by accomplishing Annexes “A,” “B,” and “C.”	4.91	A
Overall Mean Rating	**4.89**	**Very High**

The respondents have “Very High” extent of capability in responding to emergencies along disaster management as indicative to the overall mean 4.89. It implies that the BFP is very able to conduct disaster management activities before, during and after disasters and it is imperative that they should perform this obligation because they are active members of the Disaster Risk Reduction and Management Council of the City or Municipalities.

Further, on disaster management, the respondents answered that the fire marshal or his duly authorized representative “Always” formulate contingency plan for typhoon and floods and orients his personnel about the said plan, advises disaster response team with its equipment to standby, attends to LDRRMC meeting, coordinates with other government agencies in the conduct of disaster response and operation/support needed, updates the mayor/LDRRMC/IC on the availability of resources for response or SAR operations, and coordinates with the Mayor/LDRRMC/IC on the availability of BFP personnel for possible deployment ($\bar{x}$=4.96).

Felipe, 2011 stated that preparedness is the key. Lawmakers urged households and communities as well as local and national authorities to ensure preparedness for natural and man-made calamities at all levels.

It is supported by the response of the people that were interviewed that most of the time they can see or observe

BFP personnel going to the barangay before the typhoon to warn people and to be prepared for the coming of the typhoon. The BFP personnel conducts rescue and evacuations to flood prone areas. They usually conduct information dissemination on fire safety and disaster preparedness especially on July as Disaster Preparedness/ Awareness Month.

The summary of the extent of the capability of the BFP in responding to emergencies is shown in Table VII.

Table VII Summary of the Extent of the Capability of the BFP of Ilocos Sur in Responding to Emergencies.

Items	Overall Mean	DR
Fire Safety Enforcement	**4.85**	VH
Firefighting Operations	**4.83**	VH
Emergency Medical Services	**4.80**	VH
Special Operations	**4.88**	VH
Fire/Arson Investigation	**4.94**	VH
Disaster Management	**4.89**	**VH**
As A Whole	**4.86**	**Very High**

The respondents have a "Very High" extent of capability in responding to emergencies as manifested by the overall mean of 4.86. Furthermore, it shows that the respondents have "Very High" extent of capability in responding emergencies specifically along fire safety enforcement ($\bar{x}$ = 4.85), firefighting operations ($\bar{x}$ = 4.83), emergency medical services ($\bar{x}$ = 4.80), special operations ($\bar{x}$ = 4.88), fire/arson investigation ($\bar{x}$ = 4.89) and disaster management ($\bar{x}$ = 4.89). This means that the BFP continues to aim to follow its mandate and pursue measures to boost its capacity to do so.

Relationship Between the Extent of the Capability of the BFP of Ilocos Sur in Responding to Emergencies and Profile

Table VIII shows the Correlation Coefficient between the Extent of the Capability of the BFP of Ilocos Sur in Responding to Emergencies and Profile.

Table VIII. Correlation Coefficients between the Extent of the Capability of the BFP of Ilocos Sur in Responding to Emergencies and Profile.

PROFILE	Fire Safety Enforcement	Firefighting Operations	Emergency Medical Service	Special Operations	Fire/Arson Investigation	Disaster Management	As A Whole
Age	-.189	-.115	-.200	.001	-.029	-.128	-.137
Sex	-.149	-.033	.082	.073	.182	.073	.058
Civil Status	-.030	.179	-.004	.211	.156	.010	.122
Educational Attainment	-.115	-.106	.039	.115	.008	-.135	-.030
Family Monthly Income	-.191	-.350**	-.145	-.206	-.149	-.235	-.279*
Status of Appointment	-.131	-.186	-.190	-.089	-.077	-.129	-.176
Related Training Attended	.129	-.038	.045	.081	.098	-.095	.037

As a whole, there is an inverse relationship between the extent of the capability of the BFP in responding to emergencies and the income (r = -.279). It means that the lower the income the higher the extent of capability of the BFP in responding to emergencies. It implies that if they have lower income, they will have to perform better in their responsibilities as responders. This is because they want to remain capable in their job for them to be maintained and promoted in a higher rank.

Further scrutiny, there is also an inverse relationship between the extent of the capability of the respondents in responding to emergencies specifically along fire operations and income (r = -.350). It means that the respondents especially the newly hired who have lower income have a higher extent of capability in responding to emergencies specifically on fire operations. Since they are new in the service, they are very eager to learn therefore have undergone training. It implies that if they have lower income, they perform better in their responsibilities as fire rescuers. This is because they want to remain capable in their job especially during fire operations in order for them to be maintained and promoted in a higher rank. It also depicts that the other variables did not show significant relationship with the capability of the BFP in responding to emergencies, which implies that the respondents have the same capability in responding to emergencies whether they are young or old, married or single, with master's degree or college graduate, with permanent or temporary status of appointment and with or without trainings.

Carandang, 2014 stated in his report, that Fire Officer I has a salary grade 10 or equivalent to a monthly base pay of Php 14,834. When one decide to become a firefighter, it is not just because they are only looking for a job but is willing and have a commitment to become a firefighter because it is a tough and challenging job that require focus and determination to serve for the protection of the people.

IV. CONCLUSION

The respondents are highly capable of rendering quality fire operation procedures. They have the ability to investigate all causes of fires. They have properly trained firefighters and adequate firefighting supplies/equipment/vehicles thus able to respond to emergencies. They are also responsible for the proper steps to be taken for fire prevention and any other suppression measures to secure the safety of life and property of the people in the community.

RECOMMENDATIONS

With the findings of the study, the following recommendations are forwarded. 1. The very high extent of the capability of the BFP of Ilocos Sur in responding to emergencies should be maintained by continuously attending the updates or skills training and assessment particularly the new staff to broaden and deepen their expertise as firefighters. 2. The BFP's Special Rescue Unit should undergo specialized training to enable them to conduct rescue operations to allow them to mount a proper response to other catastrophes and/or emergencies instead of only fires per se. 3. BFP personnel should also pursue post graduate studies related to their work. 4. Local Government Units should allocate funds for the purchase of more modernized supplies, equipment and vehicle that will significantly boost the firefighting capacity of the BFP as a whole.

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