

# Stakeholders' Collaboration and Fire Disaster Management in Anambra State, Nigeria

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**Abstract:** *The purpose of the research was to analyze how different parties in Anambra state, Nigeria, worked together to handle fire catastrophes. A combination of the difficulty of the job and the inadequacies of government officials in handling the situation necessitated this investigation. The purpose of this research was to examine potential links between various stakeholder engagement and fire disaster prevention and mitigation in Anambra state, Nigeria. Further objectives of the research included analyzing fire emergency response in Anambra state, Nigeria, and the nature of the interaction between governmental and non-governmental players' partnerships. The aims of the study informed the development and testing of three hypotheses and research questions. The research included both theoretical and empirical works that were relevant to the topic. Icek Ajzen's 1991 theory of planned conduct served as the foundation for the investigation. The research strategy for the study was a descriptive survey. To collect the main data, the research used a structured questionnaire. Score averages, frequency distributions, and tables displayed the data. With a mean score of 3.0, the decision rule established acceptance conditions for all statements. We refused all of the material below. We used a 0.05 significance level for the Pearson Product Moment Correlation Coefficient to test our hypothesis. The study's findings indicate a strong correlation between the participation of several stakeholders and the prevention and mitigation of fire disasters in Anambra state, Nigeria. Furthermore, it was discovered that there exists a substantial correlation between the cooperative efforts of governmental and nonprofit parties and the effectiveness of fire emergency response in Anambra state, Nigeria, among other factors. The study's recommendations include the need for the government to develop suitable policy frameworks to coordinate fire disaster prevention efforts and impose appropriate penalties on those who violate them. Additionally, it is suggested that the government and organized civil society establish a Memorandum of Understanding to enhance collaboration and improve the management of responses to fire emergencies and disasters.*

**Keywords:** *Stakeholders, Fire Disaster, Disaster Management.*

## INTRODUCTION

No matter how prepared a government or non-state entity is to respond to and handle an emergency, disasters will inevitably strike any community. Among all types of emergencies, a fire catastrophe poses the greatest risk to human life. Tragically, fires may destroy homes and businesses, inflict severe injuries, and claim lives. Losses may happen unexpectedly and, in any place, due to fires (Ansell, 2021; WHO, 2007). Over 300,000 people die each year from burns caused by fires, with over 95 percent of those casualties happening in countries with low- or medium-income levels (Cvetković, 2021; World Health Organization WHO, 2007).

She concluded that public areas are more susceptible to the destruction that ensues from fire outbreaks, which is in line with the findings of the United States Federal Emergency Management Agency (FEMA) (FEMA, 2016). Many fire catastrophes have occurred throughout the country, including Anambra state. According to the Chief Executive Officer of the Anambra State Fire Service, as cited in the Agency Report (2021), the state of Anambra had 154 fire outbreaks in 2020, 114 incidents in 2021 with 15 deaths, and 119 outbreaks in 2022. When it comes to fires in Nigeria, the Federal Fire Service handles the response and management, while NEMA is in charge of catastrophes and emergencies generally. These groups also exist, although in different guises, at the state level, among the several entities engaged in catastrophe management.

In times of fire, these agencies work along with Nigerian security forces, the Federal Road Safety Corps (FRSC), the Nigerian Security and Civil Defense Corps (NSCDC), and many other non-governmental organizations (NGOs), civil society organizations (CSOs), and fire brigades (FBOs). This empirical inquiry focuses on stakeholders' cooperation and fire disaster management in Anambra state, Nigeria. It examines how various governmental and non-governmental entities work together to handle fire crises and disasters in the state.

## STATEMENT OF THE PROBLEM

Natural and man-made catastrophes of many kinds may strike Nigeria. Since natural disasters are uncontrollable, they are best handled by the government. A good strategy for managing natural disasters will help to mitigate their consequences and reduce their catastrophic effects. However, there are also several man-made disasters peculiar to Nigeria. A number of the fire incidents that occur in Nigeria are man-made. Also, terrorism and insurgency, pipeline explosions, communal clashes, road and air transport accidents, and religious riots, among others constitute significant aspects of man-made disasters. Thus, while natural disasters are manageable, man-made disasters can be prevented. This not only further entangles the convoluted web of disaster management, but it also shows that stakeholders' ad hoc arrangements for emergency responses and disaster management have failed to handle disasters in Anambra state and Nigeria overall.

The management of fire disasters is usually reactionary and short-lived. Emphasis is merely on efforts to put out the fire. Immediately the fire is put out, there is hardly a long-term, well-thought-out solution to help victims mitigate their economic losses and bounce back quicker. While the loss of lives from a fire disaster can never be regained, economic losses can be recovered with effective policy frameworks, strategies, and collaboration from relevant stakeholders and agencies. Post-disaster recovery efforts and management is lacking and everyone is expected to move on with their lives once the lights are out and the events are over.

The fire department does not have the authority to deal with the financial damages and medical crises caused by fire disasters. All of these responses are uncoordinated and done on an as-needed basis; for example, the National Emergency Management Agency (NEMA) only supplies relief supplies sometimes, and the health sector deals with any health problems that emerge. Given the foregoing, this study aims to investigate how stakeholders in Anambra state, Nigeria, work together to mitigate fire catastrophes.

## OBJECTIVES OF THE STUDY

The main objective of this study is to investigate stakeholders' collaboration and fire disaster management in Anambra State Nigeria. In specific terms, the study aims to;

1. Determine the relationship between stakeholders' involvement and fire disaster prevention in Anambra state Nigeria.
2. Ascertain the relationship between governmental and non-governmental stakeholders' collaborations and fire emergency response in Anambra state Nigeria.
3. Determine the relationship between inter-agency strategic partnership and fire disaster recovery efforts in Anambra state Nigeria.

## RESEARCH QUESTIONS

The following research questions guided the study;

1. What relationship exists between stakeholders' involvement and fire disaster prevention in Anambra state Nigeria?
2. What is the relationship between governmental and non-governmental stakeholders' collaborations, and fire emergency response in Anambra state Nigeria?
3. How does inter-agency strategic partnership relate to fire disaster recovery efforts in Anambra state Nigeria?

## HYPOTHESES

The following hypotheses guided the study:

1. **Ho:** There is no significant relationship between stakeholders' involvement and fire disaster prevention/mitigation in Anambra state Nigeria.
2. **Ho:** There is no significant relationship between governmental and non-governmental stakeholders' collaborations and fire emergency response in Anambra state Nigeria.
3. **Ho:** There is no significant relationship between inter-agency strategic partnership and fire disaster recovery efforts in Anambra state Nigeria.

## REVIEW OF RELATED LITERATURE

**DISASTER:** A disaster is an incident that disrupts the normal conditions of existence. Disaster could be man-made or an act of God, called natural disaster. It could also be sudden – like a flash flood – or progressive – like erosions and droughts. Usually, disasters leave behind trails of destruction, and loss of lives and properties on a large scale. An incident can be said to be a disaster when the capacity exceeds what the community or environment can handle using its available resources. Thus, disaster exposes the vulnerability of a community and society as a whole. Earthquakes, explosions, fires, volcanoes, landslides, and floods are examples

of some of the well-known disasters. In recent times, acts of terror have become one of the most commonplace disasters of the 21<sup>st</sup> century.

A catastrophe is defined as an emergency scenario that rapidly and dramatically alters the status quo (often for the worse) due to either natural disasters or human-induced causes (Olurunfemi, & Raheem, 2010). The definition by Olurunfemi & Raheem (2010) brought to the fore, the similarities between the words disaster and emergency. Both terms have been used interchangeably in this study but they are not entirely the same thing – even though they share obvious similarities.

An emergency, according to Olivia (2011) is a situation of grave danger or risk to one's health, life, or environment. Emergencies are mostly preventable and have micro-level impacts. Thus, we could have medical emergencies which can effectively be addressed through timely medical intervention. A riot or civil disobedience is also an emergency. Severe weather conditions and fire incidents also constitute emergencies that can be nipped in the bud through timely interventions and response actions. Any situation that poses a serious threat to human life is an emergency. From the analysis, it therefore means that emergencies and disasters both present situations that demand urgent response, emergencies involve individuals or small groups of people, while a disaster occurs on a much bigger scale and has the potential to cause large-scale destruction of lives and properties.

Emergencies are early warning signs of disaster; thus, similar strategies are usually employed in emergency management and disaster management. However, human casualty is one of the major distinguishing features that defines what an emergency is and what is a disaster and if people are not hurt, then there is no disaster.

**FIRE DISASTERS:** Depending on their severity, fire catastrophes may have a localized or global impact. Fire catastrophes, whether big or small, pose a threat to public health because of the people and property they might destroy or damage (Marion and Maingi, 2010). The devastation that fires inflict on human society's structures and infrastructure may have far-reaching effects. Furthermore, fire crises cause a great deal of casualties and severe injuries.

Worldwide, the frequency of fire disasters is concerning. In UK School fires cost an estimated £67 million in 2005, up from £49 million in 1995 (Wade, Teeman, Golden, Wilson, & Woodley, 2007). There was a school fire in India that killed over 100 pupils and wounded many more (Beware, 2004). A similar tragedy occurred in 1995 when 441 schoolchildren lost their lives due to fear and a rush that ensued when the yearly celebration building caught fire (Luoga 2021, Taghizadeh, 2013). The government of the United Kingdom has chosen to teach pupils about fire catastrophes as part of their regular school curriculum to raise their level of sustainable emergency preparation. At this time, students in all elementary and secondary schools are required to learn about disaster preparation.

The foundation of disaster prevention education in Japan is the acquisition of information about how to avert disasters, according to Alphonse (2019). Despite the aforementioned examples from Japan and India, studies conducted in Kayamandi schools have shown that schools in this area do not prioritize disaster risk prevention or preparation, since they do not conduct fire drills according to South African legislation (Eunison, 2018). Disasters keep happening even if there are efforts to prevent, reduce, and eventually overcome them on a worldwide scale.

A lot of people are worried about how to make communities safer from flames because of the deaths, injuries, and expensive property damage that fires may cause. Research shows that hospital nurses' understanding of fire safety protocols correlates positively with their ability to respond to and recover from disasters. Knowledge of nurses ( $p=0.043$ ) and attendance at fire training ( $p=0.001$ ) are linked with preparedness in the event of a fire emergency. In addition, there is a substantial association between the readiness of nurses and the installation of active protection systems ( $p$ -value 0.012) (Miranty 2021; Setyawan et al 2020).

Overcrowding and a lack of resources are just two of the numerous obstacles that have caused many to put fire risk management and preparation at the bottom of their priority list. However, many organizations, both public and private, have said that a lack of funding was a contributing factor to their lack of readiness. Fire safety training, including the proper use of extinguishers (Tac et al., 2020) and emergency evacuation procedures, may help alleviate the problem of insufficient safety training, which is a known risk factor for fires. Fire incidents in Nigeria are so incessant to the extent that they occur almost daily (Adamu, 2013). This makes the issue of fire disasters a major emergency that requires adequate policy measures to prevent, mitigate, and respond appropriately to fire disasters when they occur.

**DISASTER MANAGEMENT:** Efforts in disaster management focus on reducing vulnerability in different groups and encouraging at-risk populations to actively manage risk. Given its interdisciplinary nature, it calls for a concerted effort by government and non-profits, as well as improved communication and collaboration across different fields (Olurunfemi & Raheem, 2010). Reducing or avoiding losses, providing victims with timely and appropriate help, and achieving efficient recovery are the three main goals of

disaster management. More specifically, disaster management entails coordinating the functions and duties of responders, private organizations, governmental agencies, nonprofits, faith-based groups, volunteers, contributions, and so on to deal with a catastrophe. Through planning, reaction, recovery, and mitigation, the head of a disaster-management team strives to lessen the effect of an occurrence.

Businesses, governments, and civil society organizations all participate in what is known as the disaster management cycle, which consists of three stages: preparation for disasters, response to disasters, and recovery. More readiness, improved warnings, less vulnerability, or catastrophe prevention in the following cycle iteration is the result of doing the right thing at the right time throughout the cycle. Developing public policies and strategies to alter catastrophe triggers or lessen their impact on people, property, and infrastructure is an important part of the disaster management life cycle.

## THEORETICAL FRAMEWORK

Planned behavior was the guiding concept in this study. In 1991, Icek Ajzen laid the groundwork for what would become known as the Theory of Planned Behavior (TPB). The theory, first published in 1980 as the Theory of Reasoned Action, seeks to predict the context in which an individual would act consistent with their declared goals. Assuming this theory will work, it would explain all that people can do. At the heart of this concept are people's behavioral intentions; these intentions are influenced by their attitude about the likelihood that their actions will have the expected result and their subjective evaluation of the benefits and drawbacks of that outcome.

Smoking, alcohol use, health care usage, breastfeeding, and drug use are just a few of the many health behaviors and intents that have been effectively predicted and explained by the TPB. Theoretically, disaster management aids both the state and the general public in preparing for and responding to potential crises. Both capacity (behavioral control) and motivation (intention) are necessary for behavioral success, according to the TPB. Specifically, it differentiates between control, normative, and behavioral beliefs. The six components that make up the TPB stand for the degree to which an individual can direct their actions.

1. **Attitudes** - How positively or negatively one perceives the action in question is what this term alludes to. It requires thinking about what will happen as a result of doing the action.
2. **Behavioral intention** - This relates to the elements that motivate a person to behave in a certain way; the more powerful their desire to act, the more probable it is that they will act.
3. **Subjective norms** - What this means is that you think the majority of people think the action is OK or bad. It has to do with how one feels about the opinions of important persons in one's life and one's peers about the appropriateness of the activity.
4. **Social norms** - Here we are talking about the established norms of conduct within a certain community or cultural setting. When members in a group adhere to certain social standards, we say that they are normative.
5. **Perceived power** - The perceived existence of elements that may help or hurt the performance of an activity is what this term refers to. A person's sense of agency enhances their belief in their ability to influence all of those elements via their actions.
6. **Perceived behavioral control** - This relates to how easy or hard it is for the individual to carry out the action that piques their interest. An individual's sense of behavioral control is context and activity-dependent, meaning it may change from one context to another. With the addition of this theoretical component, the focus shifted from Reasoned Action Theory to Planned Behavior Theory.

The attitude of the government towards emergency response and disaster management has continued to create a recycling incident of failures and ill-preparedness. This has also impacted negatively on the behavioral intentions of the people in their attitude to emergency response as well as their subjective and social norms. Therefore, the perceived power of the people to plan and strategize in preparation for any eventuality of emergencies becomes affected negatively because there is no programmed direction from the government or its agencies in that regard.

## METHODOLOGY

**Research Design:** The researchers in this study relied on survey methods.

**Population of the Study:** Officials from many important institutions in Anambra state, Nigeria, who deal with fire catastrophe management, make up the population for this research. Among these institutions are the Anambra State Fire Service, the Anambra State Ministry of Health, and the Anambra State Emergency Management Agency (ASEMA). The fire department puts out the blaze, the state's emergency management agency helps with financial losses, and the health ministry takes care of the humanitarian and health issues that arise from fires and other calamities. These figures are presented in the table below;

**Population of the Study**

S/N	Organization	Population
1	Anambra State Fire Service	188
2	Anambra State Emergency Management Agency (ASEMA)	143
3	Anambra State Ministry of Health	229
	<b>Total</b>	<b>560</b>

Source: Field Survey, 2022

**Sample Size Determination:** To get the appropriate sample size, we turned to the 1964 Taro Yamane formula. We used the Taro Yamane formula since the sample size was known and conclusive. Here is the equation.

$$n = \frac{N}{1+N(e)^2}$$

Where n = sample size

N = Population of the study

e = Sampling error (in this case 5 percent)

The sample size is therefore computed as follows:

$$n = \frac{N}{1+N(e)^2} \qquad n = \frac{560}{1+560(0.05)^2}$$

$$n = \frac{560}{1+560(0.0025)} \qquad n = \frac{560}{1+1.4}$$

$$n = \frac{560}{2.4} \qquad n = 233$$

A total of 233 questionnaires were administered.

**Sampling Technique:** The researcher then used the Rangan Kamaisan proportional allocation or distribution method to distribute the sample to the different institutions after determining the sample size. Here is the formula:

$$n_s = \frac{N_p \times n}{N}$$

$n_s$  = Sample size allocated to each unit  
 $N_p$  = Population size of each unit  
 $n$  = Total sample size  
 $N$  = Total population size

Thus, the distribution of the sample to each unit is determined in the following manner:

1. Anambra State Fire Service	$\frac{188 \times 233}{560}$	= <u>78</u>
2. ASEMA	$\frac{143 \times 233}{560}$	= <u>60</u>
3. Anambra State Ministry of Health	$\frac{229 \times 233}{560}$	= <u>95</u>

**Total** **233**

**Method of Data Analysis:** To better understand the survey results, we used descriptive statistics like the mean and frequency distribution. To test our hypothesis, we used the Pearson Product Moment Correlation coefficient. Here we are trying to figure out what kind of connection exists between the two variables, the dependent and the independent ones. The selected significance level for interval reliability was 5%. For this hypothesis test, we consulted SPSS, or the Statistical Package for the Social Sciences. To evaluate and analyze data, SPSS is a piece of software.

**DATA ANALYSIS**

**Test of hypotheses using SPSS version 23**

**Decision rule:** Rejecting the alternative hypothesis and accepting the null hypothesis occurs when the probability falls below the alpha threshold. There is a 0.05 threshold for significance.

The respondents were given 233 copies of the questionnaire in total, of which 189 copies were accurately filled out by the respondents, yielding an overall return rate of 81 percent.

**Hypotheses One**

**Ho:** There is no significant relationship between stakeholders’ involvement and fire disaster prevention/mitigation in Anambra state Nigeria.

**Hi:** There is a significant relationship between stakeholders’ involvement and fire disaster prevention/mitigation in Anambra state Nigeria.

**Relationship between multi-stakeholder involvement (MSI) and fire disaster prevention/mitigation**

Variables		MSI	Fire Disaster Prevention
MSI	Pearson Correlation	1	.752
	Sig. (2-tailed)		.041
	N	189	189
Fire Disaster Prevention	Pearson Correlation	.752	1
	Sig. (2-tailed)	.041	
	N	189	189

**MSI: Multi Stakeholders’ Involvement**

The data in the following table illustrates the connection between the prevention and mitigation of fire disasters in Nigeria's Anambra state and the involvement of several stakeholders. The calculated correlation coefficient (r) value of .752 suggests that multistakeholder involvement and fire disaster prevention/mitigation in Nigeria's Anambra state have a strong and favorable link. The alternative hypothesis, which states that there is a significant relationship between stakeholders' involvement and fire disaster prevention in Anambra state, Nigeria, was accepted when the table also revealed a p-value of .041, which was less than the alpha value of .05 and indicated that there was a significant relationship between multi stakeholders' involvement and fire disaster prevention/mitigation in Anambra state, Nigeria.

**Test of Hypothesis Two**

**Ho:** There is no significant relationship between governmental and nongovernmental stakeholders’ collaborations and fire emergency response in Anambra state Nigeria.

**Hi:** There is a significant relationship between governmental and nongovernmental stakeholders’ collaborations and fire emergency response in Anambra state Nigeria.

**Relationship between governmental and nongovernmental stakeholders’ (G&NG-S) collaborations, and fire emergency response**

Variables		G & NG-S Collaborations	Fire Emergency Response
G & NG-S Collaborations	Pearson Correlation	1	.812
	Sig. (2-tailed)		.044
	N	189	189
Fire Emergency Response	Pearson Correlation	.812	1
	Sig. (2-tailed)	.044	

N	189	189
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**Governmental and Nongovernmental Stakeholders’ (G&NG-S) collaborations**

The data in the following table illustrates the connection between fire emergency response in Nigeria's Anambra state and the cooperation of governmental and nonprofit players. The collaboration between governmental and nonprofit parties and fire emergency response in Anambra state, Nigeria, is strongly correlated ( $r = .812$ ), indicating a favorable link. The alternative hypothesis, which states that there is a significant relationship between governmental and nongovernmental stakeholders' collaborations and fire emergency response in Anambra state, Nigeria, was accepted when the table also revealed a p-value of .044 that was less than the alpha value of .05 and indicated that there was a significant relationship between governmental and nongovernmental stakeholders' collaborations and fire emergency response in Anambra state, Nigeria.

**Test of Hypothesis Three**

**Ho:** There is no significant relationship between interagency strategic partnership and fire disaster recovery efforts in Anambra state Nigeria.

**Hi:** There is a significant relationship between interagency strategic partnership and fire disaster recovery efforts in Anambra state Nigeria.

**Relationship between interagency strategic partnership and fire disaster recovery efforts**

Variables	ISP	Fire Disaster Recovery
ISP	Pearson Correlation	1
	Sig. (2-tailed)	.981**
	N	189
Fire Disaster Recovery	Pearson Correlation	.981**
	Sig. (2-tailed)	.030
	N	189

**ISP: Interagency Strategic Partnership**

The data in the following table illustrates the connection between Anambra state, Nigeria's fire disaster recovery activities, and interagency strategic partnerships. The results show a substantial positive association ( $r = .981$ ) between the interagency strategic collaboration and the recovery efforts following the fire tragedy in the Nigerian state of Anambra. The alternative hypothesis mentioned above was not rejected because the table also showed a p-value of .030, which was less than the alpha value of .05 and indicated a statistically significant and positive relationship between interagency strategic partnership and fire disaster recovery efforts in Anambra state, Nigeria. This led us to the conclusion that the recovery efforts following the fire disaster in Anambra state, Nigeria, and interagency strategic collaboration are significantly correlated.

**SUMMARY OF FINDINGS**

The analysis produced the following conclusions:

1. 1. That in Anambra state, Nigeria, there is a substantial correlation between the involvement of multiple stakeholders and the avoidance or mitigation of fire disasters (P value =  $0.041 < 0.05$ ,  $r = 0.752$ ).
2. 2. That in the Nigerian state of Anambra, there is a strong correlation between the cooperation of governmental and nonprofit parties and the response to fire emergencies. ( $r = 0.812$ , P value =  $0.044 < 0.05$ ).
3. 3. the recovery efforts following the fire disaster in Anambra State, Nigeria, and interagency strategic cooperation had a significant association (P value =  $0.030 < 0.05$ ,  $r = 0.981$ ).

**CONCLUSION**

Given the findings from the study, we conclude this thesis by stating that disaster management, especially fire disasters, is a collective responsibility that requires the efforts and contribution of all stakeholders. The ad hoc nature of fire emergency responses has not only proven to be ineffective; it is also costly in terms of losses of lives and properties. The findings from the study also revealed the urgent need to rethink our emergency response and disaster management framework for better efficiency and effectiveness. To

achieve a better and more effective fire disaster management process in the area of study, the next segment of this chapter will offer some recommendations in this regard.

## Recommendations

In light of the study's conclusions, the following suggestions were made;

1. Government should develop a disaster response and humanitarian action plan that would help in the coordination of fire disaster prevention efforts, and assign appropriate sanctions to defaulters.
2. Flowing from the recommendation above, the government and the organized civil society should adopt a Memorandum of Understanding (MoU) that would foster a robust working relationship that will help in the better management of responses to fire emergencies and disasters. Among other pertinent matters, the Memorandum of Understanding should specify a comprehensive protocol for responding to fire crises and the part that all parties play in preventing and mitigating such incidents.
3. The task of disaster recovery and management should not be left to selected institutions of government alone. Civil society organizations and the government should forge a strategic partnership that would source for, and maintain an emergency fund for palliative distribution to victims of fire disaster as part of their recovery process.

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