

A Review of Fire Outbreaks in Government Buildings in Nigeria: Causes and Remedies

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Abstract

Recent fire outbreaks in Nigeria have raised concern among the general public, investors, and even the government. The most worrisome is the incessant fire outbreaks in government buildings, which are a major concern to professionals in the built environment. Hence, this study, which focused on fire outbreaks in government buildings in Nigeria, had the aim of critically reviewing some of the cases and shedding more light on the probable causes, with a view to providing suggestions to arrest this issue of concern. Based on the review, the majority (60%) of the fire outbreaks occurred between 2019 and 2020, and the highest (28% of the total) was reported in Abuja. Moreover, the review revealed that the major causes of fire outbreaks are electrical-related issues, political-related issues, a low level of awareness of fire safety measures, the use of low-quality or sub-standard building materials, and carelessness or negligence. The study suggested that to curb electrical-related issues, they must ensure the use of genuine cables, avoid overloading and illegal connections, and make adequate provision for routine electrical inspections. Also, security should be tightened around government buildings and Closed-Circuit Television (CCTV) cameras should be installed to curtail the activities of arsonists. Additionally, it should be mandatory for all who work in public buildings to receive training on fire disaster safety, first aid, and evacuation procedures. Doing this will guarantee that government buildings are adequately protected.

Keywords: Built environment, fire, government buildings, INEC, safety design.

Introduction

Fire is the exothermic chemical process of rapid oxidation of a substance that releases heat, light, and numerous reaction products. The part of fire that can be seen is the flame. Flames are created at the ignition point, a particular stage of the combustion event (Fire History, 2014). One of the biggest risks to people's health and safety, property, and the provision of basic services in any community is the risk of fire outbreak. Whether they start accidentally or on purpose, fire outbreaks can destroy, terrify, and harm both people and their property. It might equally contribute to a society's loss of socio-economic advancement and infrastructural development (Cote et. al, 1988 cited in Onwumere et al., 2023). These are some of the primary concerns of relevant stakeholders, particularly built environment professionals.

Several government buildings nationwide have witnessed fire outbreaks over the years (Gbonegun, 2020a). A government building in the context of this study is a building owned and/or occupied by a ministry, department or agency of the federal, state or a local government. Often when there is a fire outbreak in a public building, the greatest risk is that smoke may spread to stairwells, hallways, and other open areas. This makes it more challenging to evacuate occupants, particularly as the fire spreads to other areas of the building (Adekunle et al., 2018). Odogwu (2021) claims that Nigeria's economy is suffering greatly as a result of the negative effects of fire occurrences which have caused the country and its people much suffering and further weakened the economy. Although Nigeria lacks a reliable fire disaster database, the

country does not need an expert to explain that this condition portends significant financial harm and worsens the country's poverty indices.

Ajayi (2019) remarked that when there is a fire incident, while "everyone else is running out, the firefighters are running in" and despite the firefighters' sacrifices, the Nigerian society has not really given the Federal Fire Service the attention it deserves. He mentioned that over ₦5 trillion was lost to fire between 2013 and 2018, according to the official numbers provided by the Service at the 2018 Fire Fighters Day in Abuja (Ugwu, 2018; Ajayi, 2019). Even more perturbing is the case of perpetual fire outbreaks at Independent National Electoral Commission (INEC) offices, particularly between 2019 and 2022. Some of these outbreaks resulted from attacks due to unrest connected to elections (Akinkuotu, 2021; Oguntola, 2022; Are, 2022). The expectation is that steps would have been taken to prevent a recurrence of the 2019 outbreaks in 2022. This was not the case though. Thus, Engr. Anebi, Controller General of the Federal Fire Service (FFS), made a plea for the development of improved Standard Operating Procedures (SOP) for the most effective and secure ways to handle various fire scenarios (Ugwu, 2018). Former chairman of the Lagos Chapter of the Nigerian Institute of Building, Adelaja Adekanmbi, has also advised officials to install functional 24-hour fire stations in public buildings all across the country. He added that it is troubling for professionals to see frequent fire outbreaks in government buildings, because fire safety should have already been taken into account during the design (Gbongun, 2020a).

In the words of Adekunle et al (2018), organizational considerations and technical precautions play a role in fire safety at public buildings. They noted that in comparison to residential buildings, public buildings require fire fighters to save more lives when a fire breaks out. Hence, in an interview with Gbongun (2020a), Pius Iwundu, the former president of the

International Facility Management (IFMA), Nigeria Chapter, emphasised that fire safety issues should be taken very seriously beginning with the design stage by incorporating systems that can enable early detection of fire. He confirmed that failure to have the proper systems in place, a lack of proper maintenance, and the inability of maintenance officers to manage the structures are common causes of fire outbreaks. Odaudu (2017) also stressed that action must be taken to avert more loss of lives and property by putting a stop to catastrophic fire outbreaks.

Based on the foregoing, this study aims to review some of the fire incidents in government buildings in Nigeria, including the possible causes of such outbreaks, in order to bring to the attention of the relevant stakeholders and the general public the probable ways of minimising or eradicating the outbreaks. Many studies have been done on fire safety measures and fire outbreaks in residential buildings (Agbonkhese et al., 2017; Adekunle et al., 2018; Oloke et al., 2022), commercial buildings (Alao, Yahya and Wan, 2020; Obasa, Mbamali and Okolie, 2020), educational institutions (Yakubani, Micah and Mathias, 2018; Sholanke, Ajonye and Okpanachi, 2020), markets (Odaudu, 2017; Umar, 2021), and also public buildings (Makanjuola, Aiyetan and Oke, 2009; Abdulwahab et al., 2012; Adekunle et al., 2018; Lawal, Chandra and Bichi, 2018). However, the majority of research efforts on public buildings were limited to the South-West of Nigeria (Makanjuola, Aiyetan and Oke, 2009; Wahab, 2015; Adekunle et al., 2018; Adeleye et al., 2020), while others focused on public libraries (Abdulwahab et al., 2012) and the rest assessed the implementation of fire safety procedures and regulations (Lawal, Chandra and Bichi, 2018). However, there are no scholarly publications that specifically address fire outbreaks in government buildings that cut across Nigeria as a whole. Hence, it is anticipated that this research would contribute to the ongoing discussion on fire outbreaks in Nigeria, particularly with respect to government buildings. Moreover,

this study will contribute meaningfully to the pool of recommendations that, if implemented, will stem the tide of fire outbreaks in government buildings in Nigeria, and by extension other African nations.

To properly address the aim of the study, the following research objectives are pertinent:

1. To ascertain the notable cases of fire outbreaks in government buildings in Nigeria over the period of 2019 - 2022, and
2. To investigate the causes of fire outbreaks in government buildings in Nigeria.

Research Methodology

To accomplish the study's objectives, the researcher conducted the review using the same five-step methodology used by Babalola, Ibem and Ezema (2019). The steps are (a) formulating research questions/objectives; (b) identifying relevant published studies; (c) evaluating the studies; (d) summarizing the major findings; and (e) interpreting the findings. After formulating the study's objectives, the next step is to identify materials on prior fire outbreaks in government buildings that are pertinent to the study. Data was obtained from a variety of sources, including newspapers, reports, journals, and websites. After that, the materials were evaluated to find any publications that contained keywords, titles, or abstracts that were relevant to the study's objectives. The chosen papers were summarised and the findings interpreted. The review's conclusions, after been subjected to frequency and percentage analysis, are presented in tables and charts.

Literature Review

Review of Related Literature on Fire Outbreaks in Public Buildings

A lot of academic research has been done on the subject of fire safety precautions and fire outbreaks in public buildings like restaurants, markets, prisons, hospitals, cinemas, hotels, libraries etc (Makanjuola, Aiyetan and Oke, 2009; Wahab, 2015; Adekunle et al., 2018; Lawal, Chandra and

Bichi, 2018; Adeleye et al., 2020). Hence, it is crucial to take into account the results of some of the previous research and how they relate to this present one in order to have a solid foundation for this study. For instance, the study of Makanjuola, Aiyetan and Oke (2009) evaluated the level of fire safety provisions in public buildings and the degree to which users and occupants of the buildings were aware of fire safety measures. Users and occupants of public buildings in some selected cities in western Nigeria were surveyed. The result showed that most of the necessary fire safety equipment is either not there or, when it is, is frequently not working. In addition, most of the occupants are unaware of the equipment's existence, functionality, or usage. Wahab (2015) looked at the causes of fire in a few Osogbo restaurant buildings as well as the fire safety procedures that were in place. Management and employees from eight contemporary restaurant buildings were sampled. The findings indicated that electrical energy and gas-related activity were the two most significant causes of fire outbreaks in the buildings, while textile-related material was the least significant. Additionally, it was discovered that sprinkler/hose reels and dry chemical extinguishers were the fire-fighting equipment most frequently available in restaurant buildings, and that dry chemical extinguishers were the apparatus that they were most familiar with and knew how to use. Another study by Adekunle et al. (2018) carried out a statistical analysis of fire outbreaks in public buildings and homes in Lagos State. Information for the study was gathered from a number of rescue organisations in Lagos metropolis between 2009 and 2014. This was coupled with interviews and questionnaire administration. According to the study, arson and technical faults are the major causes of fire breakouts in public buildings. Although these results are helpful for this study, the focus was on facilities with ready public access, such as the market, hospital, cinema, restaurant, etc., and not necessarily buildings occupied by MDAs.

The paper by Lawal, Chandra and Bichi

(2018) evaluated the degree to which fire safety procedures and regulations were put into practice in Kano's Grand Central Hotel, Electricity Distribution Company Plc, and Murtala Muhammad Library Complex. Questionnaires were distributed to visitors, workers, and facility managers of these buildings. According to the study's findings, there are sufficient and readily available fire safety provisions, and their degree of implementation is satisfactory. Another paper by Adeleye et al. (2020) investigated public buildings' readiness and mitigation provisions in the event of a fire disaster in Ibadan Metropolis, Nigeria. The authors sampled forty-three public buildings and one hundred and eight building users. The research revealed that public buildings with a greater commitment to providing and maintaining fire safety equipment were banks, social buildings, and hospitals. In addition, the study found that just 51.9% of people who used the sampled buildings could handle fire safety equipment.

It is clear from the studies above that numerous attempts have been made to address the issue of fire outbreaks in public buildings. Thus, these earlier studies provide the bedrock for the current study; however, none of them particularly focused on a public building owned and/or occupied by a ministry, department, or agency of the federal, state, or local government. Consequently, to close this knowledge gap, this study assessed cases of fire outbreaks in government buildings in Nigeria and the causes of such outbreaks.

Fire Outbreak Cases in Government Buildings in Nigeria

In Nigeria, incessant fire outbreaks in government buildings has become a major concern to all stakeholders, including professionals in the built environment (e.g. engineers, builders, architects, facility managers, estate surveyors and valuers etc). As a result, they have called for the enforcement of fire safety designs and measures that can minimise future outbreaks and the attendant loss of lives and properties. Despite the fact that most accidents are not caused by human mistake,

experts advise that buildings be constructed to provide a reasonable level of fire safety and reduce hazards to lives and valuables from heat and smoke (Gbonegun, 2020a).

Maina's (2022) interview with Ibrahim Liman, a former Controller-General of the Federal Fire Service, revealed that although there are naturally occurring fire accidents, the majority are caused by people, either accidentally, negligently, or on purpose; and in most cases these accidents can be avoided with sufficient awareness. He emphasised the need to educate Nigerians on the different types of fire and what first responders should do before the arrival of fire officers. In another interview conducted by Gbonegun (2020a), Victor Oyenuga, a former president of the Nigerian Institution of Structural Engineers, stated that buildings are expected to be designed in such a way that they can withstand a one-hour fire. He claims that the inference is that there will not be any significant structural breakdown if a structure is exposed to fire for an hour. He added that this is typically not observed, particularly if a building is not properly designed and constructed.

In addition, Rauf Aregbesola, the Minister of Interior, has urged Nigerians to adopt proper firefighting attitudes because in the dry season, there is usually an increase in cases of man-made fire outbreaks (Maina, 2022). He therefore urged the Federal Fire Service and its state-level counterparts to launch more intense awareness efforts on fire safety and prevention. This is due to the fact that experts have noted that these persistent outbreaks have a significant impact on the country's inflation rate, which in turn causes a chain reaction along the demand and supply chains, in addition to other effects like a rise in the crime rate. Furthermore, the effects on the ecosystem are highly significant, thus they must not be disregarded. While a fire is raging, copious amounts of greenhouse gases are released, which has highly significant effects on climate (Odogwu, 2021). Table 1 details the reported cases of fire outbreaks in government buildings between 2019 and 2022.

Table 1: Reported Cases of Fire Outbreaks in Government Buildings (2019-2022)

S/N	Year of Occurrence	Ministries, Departments, and Agencies (MDAs) of Government	Location of Occurrence	Source
1	February, 2019	INEC headquarters	Anambra State	Akinkuotu (2021)
2	February, 2019	INEC office, Isiala-Ngwa South LGA	Abia State	Akinkuotu (2021)
3	February, 2019	INEC office, Ibesikpo Asutan LGA	Akwa Ibom	Akinkuotu (2021)
4	February, 2019	INEC office, Mkpato Enin LGA	Akwa Ibom	Akinkuotu (2021)
5	February, 2019	INEC office, Eastern Obolo LGA	Akwa Ibom	Akinkuotu (2021)
6	February, 2019	INEC office, Qua'anpan LGA	Plateau State	Akinkuotu (2021)
7	March, 2019	INEC office, Ezza North LGA	Ebonyi State	Akinkuotu (2021)
8	April, 2020	Corporate Affairs Commission's headquarters	Abuja	Fatunmole (2022)
9	April, 2020	INEC headquarters	Abuja	Akinkuotu (2021); Fatunmole (2022)
10	April, 2020	Office of the Accountant-General of the Federation (AGF)	Abuja	Okwe et al. (2020); Nwachukwu (2020)
11	May, 2020	Nigerian Postal Service (NIPOST)	Abuja	Fatunmole (2022)
12	September, 2020	INEC office, Akure	Ondo State	Akinkuotu (2021)
13	October, 2020	INEC, Arochuku LGA	Abia State	Akinkuotu (2021)
14	October, 2020	Nigerian Ports Authority, Marina	Lagos State	Folarin (2020)
15	December, 2020	INEC, office Aba South	Abia State	Akinkuotu (2021)
16	April, 2021	INEC office	Kano State	Akinkuotu (2021)
17	May, 2021	INEC office, Ohafia	Abia State	Akinkuotu (2021)
18	May, 2021	INEC office, Essien Udim LGA	Akwa Ibom	Akinkuotu (2021)
19	October, 2021	The registry and records, accounts, pension and variation units	Abuja	Odunsi (2021)
20	February, 2022	Ministry of finance building	Abuja	Wakili and Idowu (2022); Udegbunam and Adenekan (2022)
21	February, 2022	Federal Mortgage Bank, Headquarter	Abuja	Fatunmole (2022); Ochayi (2022)
22	May, 2022	INEC office, Kaura Namoda LGA	Zamfara State	Adenekan (2022)
23	October, 2022	West African Examinations Council (WAEC), Yaba	Lagos State	Alabi (2022)
24	November, 2022	INEC office, Abeokuta	Ogun State	Akinkuotu (2021)
25	December, 2022	INEC office	Ebonyi State	Akinkuotu (2021)

Source: Author's Compilation (2023)

Causes of Fire Outbreaks in Government Buildings in Nigeria

There are numerous causes of fire outbreaks; while some are caused by mankind, others are as a result of nature. In Gbonegun's (2020a) conversation with Anthony Adebayo, he pointed out that in all public building designs, architects would have incorporated fire safety principles. He explained that during the design and construction approvals process, some individuals might have compromised those safeguards. This action may result in fire outbreaks. The causes of fire outbreaks in Nigeria, as identified by some researchers, are mostly traceable to electrical faults, illegal connections of electricity, power surges, and sparks (Mann, 2010; Olaiya, 2013). In the opinion of Agbonkhese et al. (2017), the factors leading to the incessant outbreaks of fire are irregular discharge of electricity, over-voltage, illegal electrical connections, improper electrical fittings, the use of low-quality materials and ignorance. According to Obasa, Mbamali and Okolie (2020) and Wokocho, Eludoyin and Arokoyu (2023), faulty electrical appliances and the use of sub-standard building materials are the major causes of fire disasters. Amoako (2014) opined that ignorance is the major cause of fire outbreaks, while Makanjuola, Aiyetan, and Oke (2009) argued that carelessness, accidents, and arson are the common causes of fire outbreaks. Okunola (2020) claimed that improper electrical connections, power surges, improper electrical fittings, electrical sparks, the use of sub-standard building materials, and complete disregard for fire safety measures during the design and construction phases of structures are some of the causes of fire outbreaks. Wahab (2015) observed that electrical related issue is the major cause of fire outbreaks in public buildings while Adekunle et al. (2018) affirmed that arson and technical faults are the likely causes. However, in the words of Oloke et al. (2022), faulty electrical appliances and carelessness are major causes.

In an interview conducted by Akinsola (2014), Timothy Iwuagwu claimed that

approximately 70% of fire incidents can be linked to electrical faults; as a result, he advocated that safety measures be included in the design and construction phases. This further buttresses the suggestion of Oluwunmi (2022), who emphasised the involvement of Facility Managers (FM) at the early stage of construction. This is because FM can guarantee that the design complies with building standards such as Health, Safety, and Environment (HSE) regulations, which will ultimately secure the safety of people and property (Smith, 2021; Oluwunmi, 2022).

According to Gbonegun (2020a), the causes of fire outbreaks from the perspectives of built-environment professionals are non-implementation of fire safety regulations as a preventative strategy (architect); buildings that are not properly designed and constructed to incorporate smoke detectors and other fire warning components (engineer); politics-related issues (builder); and a lack of proper maintenance (facility manager). Another issue disclosed in the report by Gbonegun (2019) is non-adoption of sprinkler designs that can trigger outpouring of water to put out fire (real estate developer).

Summary of Suggested Recommendations from Earlier Research on Ways to Curb Fire Outbreaks

The occurrence of fire is one of the most destructive and widespread natural disasters worldwide (Odaudu, 2017; Gbonegun, 2020b; Oloke et al., 2022; Wokocho, Eludoyin and Arokoyu, 2023); hence, researchers and built-environment professionals, have made their submissions on how to curb fire outbreaks.

From researchers' perspectives, Adekunle et al (2018) suggested the need for early fire detection in public buildings as well as staff training and education on how to handle a fire in its early stages. Makanjuola, Aiyetan and Oke (2009) added that complimentary to providing building occupants with proper training, the current fire code and

regulations should be improved upon and administered efficiently. Moreover, they added that public buildings should be fully stocked with functional firefighting equipment, and the equipment already in place should be well-maintained regularly. Lawal, Chandra and Bichi (2018), on the other hand, advocated for the establishment of a permanent fire safety committee in all public buildings whose sole responsibility will be to provide periodic fire safety guidelines to building occupants. According to Adeleye et al. (2020), it should be mandatory for all who work in public buildings to receive training on fire disaster safety, first aid, and evacuation procedures. Additionally, it is important to regularly and properly maintain the firefighting equipment that is available in public buildings in order to prevent failure. Wahab (2015) advised adequate design from the beginning in order to achieve effective fire management procedures in public buildings. He also promoted following manufacturer's specifications for the setup, operation, and upkeep of modern firefighting equipment. Finally, it is important that the locations of firefighting equipment be easily accessible and enhanced with signage. To curb fire outbreaks in public buildings, Gordon (2016) recommended installing up-to-date fire prevention systems, providing adequate emergency routes and exits, and performing routine electrical installation inspections, while Rahardjo and Prihanton (2020) stressed the need to raise occupants' awareness of fire safety measures. Wokocha, Eludoyin and Arokoyu (2023) proposed that periodic fire safety training should be held first in government buildings and then in private organisations. In addition, Okunola (2020) recommends adopting non-flammable building materials during the design and construction of buildings in order to take fire safety precautions into account and reduce the likelihood of fire outbreaks.

From a professional point of view, Adeleke Akintilo (a civil engineer), in a discussion with Gbonegun (2019), emphasized that during construction planning, components like fire retaining walls need to be included.

He clarified that the purpose of the components like fire retaining walls is to retard the spread of fire. Anthony Adebayo (an architect) argued for "a need to enforce fire safety measures in all public buildings as a precautionary step in taming the increasing number of such accidents in the country", Adelaja Adekanmbi (a builder) "urged authorities to make fire stations available in public places across the nation to stop persistent outbreaks", while Victor Oyenuga (a structural engineer) proposed "the need for fire designs by electrical and mechanical engineers with elements of fire warning like smoke detectors, stressing that there will always be smoke before fire outbreaks in buildings" (Gbonegun, 2020a). Itua (2022) reported Muktar Galadima (a town planner) as advising the installation of Closed-Circuit Television (CCTV) cameras in all public structures to prevent arson or other crimes. Furthermore, Pius Iwundu (a facility manager) calls for the setting up of a fire safety department or team for every public building that will be responsible for working with building maintenance staff and be required to undergo regular training on how to manage fire outbreaks according to international best practices (Gbonegun, 2020a). In the report of Ugwu (2018), Garba Anebi (an engineer) appealed for the provision of improved Standard Operating Procedures (SOP) for the best and safest ways to handle various fire emergencies. Gbonegun's (2020b) discussion with Leke Oduwaye (an architect), revealed that the best way to prevent fires in buildings is to recognize the hazards, reduce them, and encourage the public to undergo efficacious fire-prevention programs. Additionally, Femi Beecroft (a real estate developer) advocated for the inclusion of sprinklers in the design of walls and roofs; these will cause water to flow out and put out fires in the event of an outbreak (Gbonegun, 2019).

Summary of Findings

Annual Frequency of Fire Outbreaks

The analysis in Figure 1 is a graphical representation of the review of the cases of fire outbreaks in Table 1. The figure reveals the year of occurrence of fire outbreaks in government buildings, as recorded in the

materials earlier reviewed. From the chart, it is clear that the majority (60%) of the fire outbreaks occurred between 2019 and 2020. Some of these cases might have been prompted by election-related issues, considering that 47% of the cases reported between 2019 and 2020 occurred in February 2019 (see Table 1). If government is desirous of minimising fire outbreaks during election periods, now is the best time to engage the services of relevant stakeholders, including built environment professionals; they can help by using their wealth of knowledge to deploy measures capable of preserving both lives and properties from fire outbreaks.

Location of Fire Outbreaks

A schematic illustration of the analysis on the location of fire outbreak cases in Table 1 is shown in Figure 2. Figure 2 depicts the location of the cases of reported fire outbreaks between 2019 and 2022 considered in this review. From the analysis, 60% of the cases were reported in Abia State, Akwa Ibom State and Abuja (16%, 16% and 28% respectively). Of all the locations, Abuja has the highest number of occurrences.

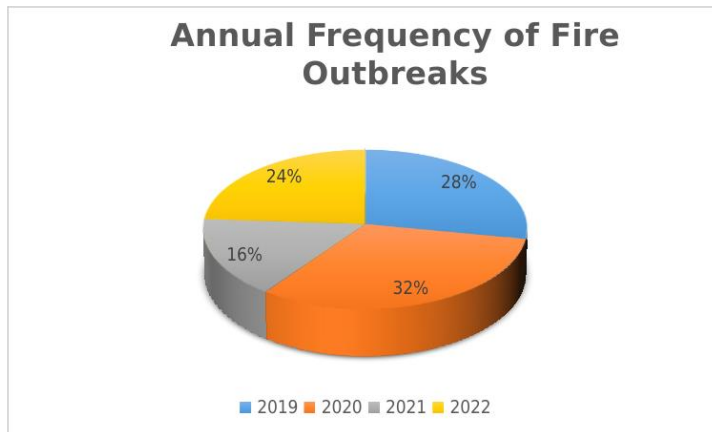


Figure 1: Annual Frequency of Fire Outbreaks
 Source: Author's Summary of Findings (2023)

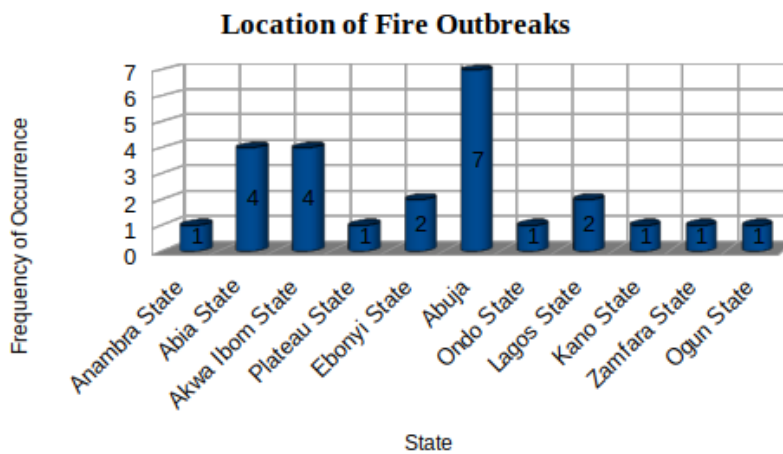


Figure 2: Location of Fire Outbreaks
 Source: Author's Summary of Findings (2023)

Outbreaks per Ministry, Department, and Agency (MDA) of Government

Figure 3 is a simplified version of the review in Table 1 on the fire outbreaks per Ministry, Department, and Agency (MDA) of Government. The figure shows that the MDA most affected by fire outbreaks (68%) is INEC. This is worrisome. INEC offices are constantly faced with the same challenge (Akinkuotu, 2021; Adenekan, 2022). Even more disturbing is the fact that no arsonist has been apprehended and prosecuted for these attacks; this must change.

Causes of Fire Outbreaks in Government Buildings in Nigeria

The review of the causes of fire outbreaks as determined by various researchers has shown inconsistent conclusions; thus, it is vital to have a common viewpoint. This will make it simple to identify the causes, which will in turn make offering solutions easy. From the review, the researcher has categorised the causes of fire outbreaks in

government buildings under ten (10) broad headings, namely: electrical-related issues (e.g. electrical faults, illegal connections, power surges and sparks, over-voltage, improper electrical fittings etc.); politics-related issues; ignorance or inadequate awareness of fire safety measures; the use of low quality or sub-standard materials; carelessness or negligence; accidents; arson; non-implementation of fire safety regulations; non-incorporation of smoke detectors and other fire warning components into building designs; and non-functional or absent firefighting equipment. In view of this outcome, a conceptual framework is suggested to highlight the causes of fire outbreaks in government buildings (see Figure 4). From this outcome, it can be concluded that in order to overcome incessant fire outbreaks, relevant stakeholders must focus on offering lasting solutions to the identified categories of causes of the outbreaks.

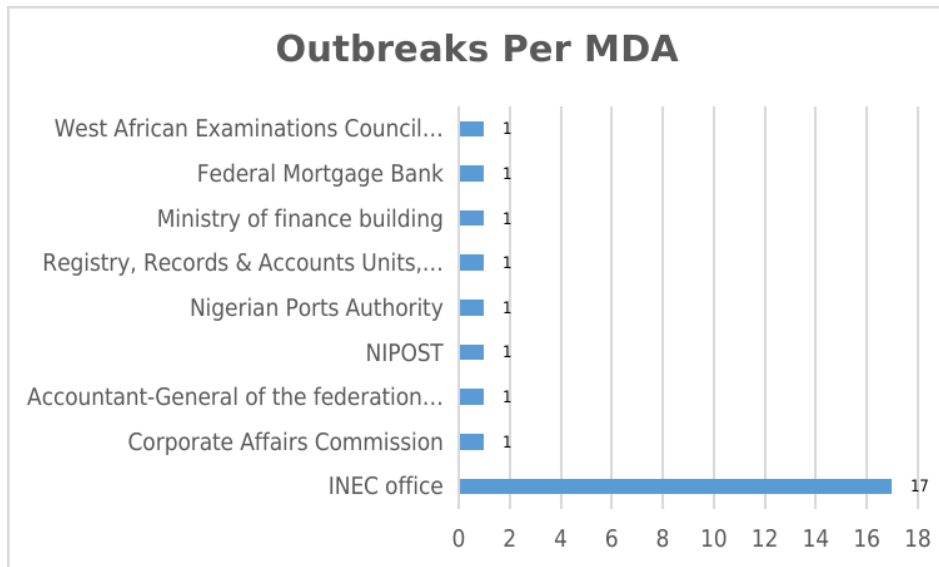


Figure 3: Outbreaks per MDA
Source: Author's Summary of Findings (2023)

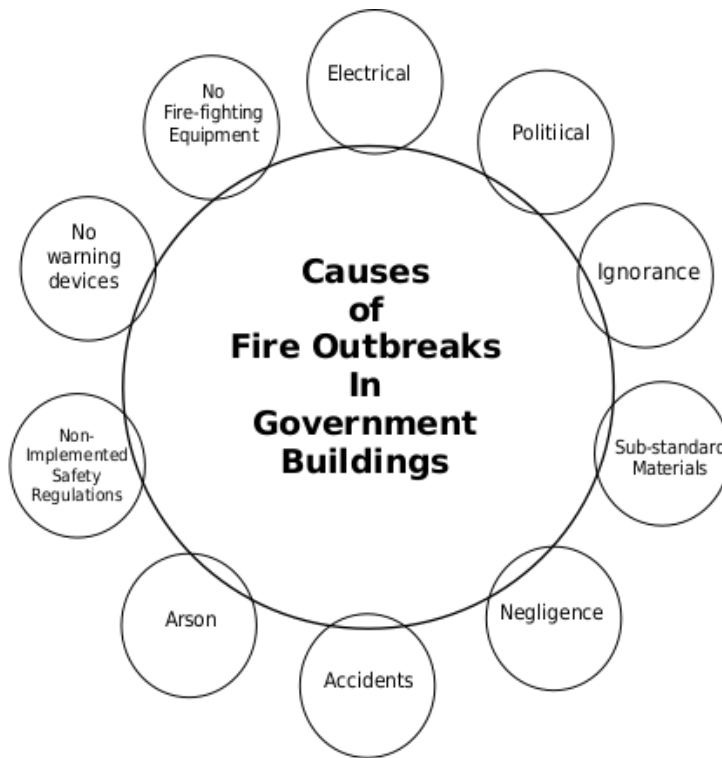


Figure 4: Causes of Fire Outbreaks in Government Buildings
Source: Author's Concept (2023)

Conclusion and Recommendations

This study is based on a review of cases of fire outbreaks in government buildings in Nigeria and the causes of such fire outbreaks. The review identified twenty-five notable cases, ten main causes and proffers ten remedies. The suggested

measures (listed in Table 2), if adopted, will help to minimise the frequency and menace of fire breakouts in government buildings in Nigeria and, by extension, Africa. In conclusion, it should be mentioned that firefighting in Nigeria, especially in government buildings, is everyone's responsibility.

Table 2: Suggested Recommendations

S/N	Causes of Fire Outbreaks	Suggested Recommendation
1	Electrical-related issues	♦ To ensure the use of genuine cables, avoid overloading and illegal connections, and make routine electrical inspections.
2	Politics-related issues	♦ The government and security services need to tighten security around government facilities to reduce their vulnerability to arson attacks. Also, all government buildings should be equipped with solar-powered CCTV cameras to deter arson and other crimes.
3	Arson	♦ It should be mandatory for workers in public buildings to receive training on fire disaster safety, first aid, and evacuation procedures.
4	Ignorance or inadequate awareness of fire safety measures	♦ Use of quality fire-resistant or non-flammable building materials.
5	The use of low quality or sub-standard building materials	♦ During construction planning, components like fire retaining walls should be included.
6	Carelessness or negligence	♦ Each fire outbreak must be investigated, and if it was due to carelessness or negligence, the offender(s) must be penalised.
7	Accidents	♦ Developers must add sprinklers to walls and roofs, which will activate and extinguish fires as necessary.
8	Non-implementation of fire safety regulations	♦ Establishment of a permanent fire safety committee in all public buildings whose sole responsibility will be to provide periodic fire safety guidelines and ensure that occupants adhere strictly to safety regulations
9	Non-incorporation of smoke detectors and other fire warning components into building designs	♦ Incorporation of smoke detectors and other fire warning components into designs of public buildings
10	Non-functional or absent firefighting equipment	♦ Public buildings should be fully stocked with functional firefighting equipment, and the equipment already in place should be well-maintained regularly.

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