Institutional Capacity and the Roles of Key Actors in Fire Disaster Risk Reduction: The Case of Ibadan, Nigeria

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Abstract  Inefficient and ineffective fire management practices are common to most urban areas of developing countries. Nigerian cities are typical examples of high vulnerability and low preparedness level for fire disaster. This study examined the institutional framework for fire disaster risk reduction (FDRR) and explored the roles of key actors in fire disaster preparedness in Ibadan, a large traditional city in Nigeria. The study was anchored on the concept of urban governance. A case study research design was adopted using primary and secondary data. Primary data were obtained through field observation aided by a structured checklist and key informant interview. Interviews were conducted on key officials of the major organs for FDRR—Oyo State Fire Service (OSFS) and Oyo State Emergency Management Agency (OYSEMA). The study identified a disjointed and fragmented approach to fire management. Matters relating to fire risk reduction and disaster recovery were domiciled under the OYSEMA, while emergency response to fire disasters was the prerogative of the OSFS. The results show that only five out of 11 local government areas had public fire stations; only three fire stations had an on-site water supply; three fire stations lacked firefighting vehicles; and distribution of fire stations and facilities was uneven. Two fire stations responded to 80% of all fire cases in 12 years. The study concluded that the institutional structure and resources for fire risk reduction was more empowered to respond to fire disaster, rather than facilitating preparedness capacity to reduce disaster risk.

Keywords  Disaster preparedness · Disaster risk · Fire disaster · Fire service · Fire station

1 Introduction

The increasing fire disaster-related loss of life, property damage, and harmful effects on the environment have attracted global attention on the need for fire disaster management based on a proactive approach that forestalls potential risks and tackles fire hazard at the pre-stage (Dube 2015; Weekes and Bello 2019). Fire disaster management has been evolving with greater attention being drawn to preventive mechanism and preparedness measures. This is consequent on the realization that uncontrolled fire remains a major cause of loss, injury, and destruction of lives and property (Navitas 2014; Shokouhi et al. 2019). It is thus apparent that focusing on post-fire disaster activities, such as search and rescue and distribution of relief items to disaster-affected individuals alone is insufficient for the sustainable management of fire and other hazards (Kasim 2014; Glago 2020).

The motivating concepts that guide fire management throughout the world are the reduction of damage to property, protection of life, and reduction of environment degradation (Martin et al. 2007; Coppola 2015; Santín and Doerr 2016; Tymstra et al. 2020). However, the local and institutional capacity to actualize this mission is widely uneven (Agbola and Falola 2021; Bello et al. 2021). While no country, regardless of economic status and level of development, has built a capacity to be completely invulnerable to fire disaster (Coppola 2015), cities of developing countries are particularly adjudged to have weak capacity to achieve sustainable fire disaster management (Bello et al. 2021). Henderson (2004) and Hallegatte et al. (2020) attributed the
nature of vulnerability of cities of developing countries to poor socioeconomic conditions, poor governance structure, and poor infrastructural facilities. Fire safety consideration is usually not taken seriously when planning, designing, and constructing new buildings or during repairs, renovation, modification, and rehabilitation of existing buildings (Woodrow 2012; Ivanov et al. 2022). The situation is worse in urban areas of developing countries where fire disasters repeatedly take place in buildings with no evidence of incorporating lessons learned from earlier fires (Cobin 2013). This is the commonality of fire management in most Nigerian cities, including Ibadan.

Efforts to manage fire by the government through the established fire services and the emergency management agencies have not been productive. The inherent fire risk in Ibadan and many other cities in Nigeria is heightened by apparent prioritization of distribution of relief items that will assist affected individuals in recovering from the impact of fire disaster at the expense of proactive measures involving prevention, mitigation, and preparedness. As observed by the International Federation of Red Cross and Red Crescent Societies (IFRC) (2012), for instance, there was no budgetary allocation that was devoted to disaster risk reduction (DRR) at the state level. Virtually all of the annual allocations that were approved by the ministry of finance were for disaster response purposes (IFRC 2012). It shows that the government is more interested in post-disaster crisis management (rescue, relief, and recovery measures) than in pre-disaster risk management (prevention, mitigation, and preparedness for prompt response).

In addition, there is no specific law geared towards addressing the underlying factors predisposing human settlements to fire risks at all levels of government. More than a decade after it was drafted, the National Building Code (NBC) of 2006 is yet to be passed into law by the National Assembly. The existing planning laws and space standards at the federal and state levels that were supposed to curtail the spate of fire disasters have not been properly implemented and enforced (Oyo State Government 2016; Wahab and Falola 2016; Agbola and Falola 2021).

To achieve sustainable fire management, efforts need to be devoted to analyzing the existing community and institutional fire mitigation and preparedness measures in content and context. The analysis of the existing situation remains a prerequisite for adequate fire disaster risk reduction. Consequent upon the above, this study examined the institutional apparatus and the roles of key actors in fire disaster risk reduction in Ibadan as a prism for the situation in Nigerian cities. Key objectives pursued include: assessment of the legal and administrative structure for fire disaster management, and evaluation of equipment and facilities available for institutional preparedness for fire emergency.

The concept of urban governance provided the framework for this study. Governance is widely conceived to encompass national, state, and local governments and goes beyond them to include civil society and the private sector (FAO 2011; Weekes and Bello 2019). Within the fire disaster risk context, the concept of governance expresses the aggregate willingness, capacity, and ability of diverse actors to have coordinated actions in managing risks associated with fire hazards (CATALYST 2013). Good governance is the umbrella under which fire disaster preparedness take place. Ensuring safety and security of urban lives and properties is a prime indicator of good urban governance (Agbola 2001). The impact of governance is acknowledged as critical for applying state resources to reduce disaster risks (Agbola and Alabi 2010; Bello et al. 2021). Kasim (2014), Salami et al. (2017) and Hallegatte et al. (2020) argued that weak governance predisposed the urban settlements and city dwellers to increasing risk and vulnerability to disasters, such as fires. This is because effective management of fire disaster is dependent on appropriate policies, legislations, and strategies that are put in place to guide urban development as well as to enhance the preparedness capacity of the city (Weekes and Bello 2019). Poor or weak governance, with manifestations in the form of uncoordinated roles and responsibilities among government agencies, is a major impedance to effective fire disaster risk reduction (Wahab and Falola 2016). Actionable policy and effective legislation are directly related to the successful preparation for urban fire disasters (FAO 2011; FAO 2021). Good urban governance in terms of making suitable policies and laws, in conjunction with organizing public enlightenment, sensitization, and education on fire safety, will give individuals and communities at risk a sense of belonging, and will result in efficient preparedness measures for fire hazard (FAO 2011; FAO 2021).

Evidence from the literature shows that previous fire disasters in African urban areas exhibited similar commonalities of weak urban governance and associated poor emergency preparedness capacity. These include many fire disasters in public, educational, and commercial buildings in Tanzania (Kahwa 2009), Kenya (Muchira 2012; Ogajo 2013), Uganda (Kahwa 2009; Akumu 2013), and Nigeria (Ugwuanyi et al. 2015; Popoola et al. 2016; Agbola and Falola 2021; Alabi et al. 2021). In recent studies, significant relationships have been established between institutional arrangements for controlling urban growth and incidents of disasters (Wahab and Falola 2016; Wahab and Falola 2018; Agbola and Falola 2021). The nature of urban growth, especially when it is not matched with infrastructure and institutional frameworks that are necessary for adequate disaster preparedness, could be a major limitation to effective disaster risk reduction (Agbola et al. 2012; Ojo 2013; Bello et al. 2021). Ojo (2013) and Bello et al. (2021) argued
that the losses and costs incurred from disasters are best regarded as consequences of multiple institutional inadequacies (that is, environmental, economic, political, and social dimensions), which predispose cities and their inhabitants to risks. Weak or inefficient institutional setup manifests in forms of non-enforcement of basic fire safety regulations (Wahab and Falola 2016); non-adherence to the building codes—a situation that hinders accessibility of fire vehicles to reach incident sites (Kahwa 2009; Alabi et al. 2021); lack of emergency exit doors; and lack of awareness of school management and parents on matters relating to fire safety (Kahwa 2009).

According to Karen (2009), events such as fire do not necessarily translate into disasters but institutional staff usually learn the advantages of emergency preparedness through difficult experiences. According to him, disasters can actually be managed, lessened, or totally prevented by broad, integrated disaster preparedness and mitigation measures. The foregoing attest to weak institutional capacity in most developing country cities in managing fire disasters. This and related urban fire management practices are assessed within the context of institutional preparedness capacity.

2 Study Area

The study was carried out in Ibadan, which is the administrative and commercial center of Oyo State, Nigeria. Ibadan is located on the Gulf of Guinea, approximately 160 km from the Atlantic coast, 142 km northeast of Lagos, and 120 km east of the Republic of Benin (Fig. 1). It comprises 11 local government areas (LGAs) out of the 33 LGAs in Oyo State. The core of the city is made up of five LGAs and portions of each of the remaining six LGAs within Ibadan Region. The study area covers the 11 LGAs.

The population of the city grew faster in the six outer LGAs than in the five core LGAs. The implication of this trend is that there is an increasing movement of population to communities in the peri-urban areas from the congested city center where land is insufficient for physical development (Oyo State Government 2016). Ibadan City is one of the cities having the highest population density in Nigeria with the traditional core having the highest density in the city (Oyo State Government 2018). The implication of the rapid rate of urbanization, population growth, and urban expansion for fire disaster management is significant. The densely populated settlement exists within a context of improper land use planning, which has resulted in
unpleasant situations and environmental challenges, such as housing shortage, poor quality housing, poor network of neighborhood access roads, slum development, and building fire disasters (Wahab and Falola 2018; Agbola and Falola 2021). The result is a city that is more prone to building fire disaster than ever before as documented by Agbola and Falola (2021).

3 Methodology

A case study design was adopted in this research. This study incorporated descriptive and normative explorations. Descriptive research was employed to understand the nature and characteristics of the research problems that needed attention. In this case, the problem was weak institutional and community capacity to manage fire disasters in urban areas. Normative research was required to suggest how the problems should be addressed. This aspect helped in arriving at policy and practical recommendations required to improve fire disaster management in urban environments.

The data for this study were collected from secondary and primary sources. Secondary sources included relevant record-keeping institutions, such as the National Emergency Management Agency (NEMA), the Oyo State Emergency Management Agency (OYSEMA), the Bureau of Physical Planning and Development Control (BPPDC) of the Oyo State Ministry of Lands, Housing and Survey (OMLS), Oyo State Fire Service (OSFS), civil society organizations (CSOs), and the Internet. Available records on major fire disasters in Ibadan were collected from the OSFS, NEMA, and OYSEMA. Similarly, records on the level of impacts, recommended response measures, and the actual government responses were obtained from the OYSEMA. Information and documentation on fire-related activities carried out by nongovernmental organizations (NGOs), the Nigerian Red Cross Society (NRCS), and faith-based organizations (FBOs) were gathered.

Primary data were obtained through field observations and key informant interviews. Direct observation was done to understand and get familiar with the existing situation in content and context. The direct observation was aided by a structured checklist to take inventory of available equipment in the fire service stations. Two key informant interviews were conducted with each of the selected stakeholders in fire management. These included officials of the OSFS, OYSEMA, NRCS, NSCDC, CSOs, FBOs, and landlord associations. Their roles and challenges faced in fire disaster management were the major focus of the interview sessions. Fourteen separate interview sessions were conducted in May and June, 2020. Specific questions relating to their involvement in the prevention, mitigation (such as enforcement), preparedness (such as early warning systems), response/relief measures, and recovery activities were captured in the interview guide. The interview sessions involved face-to-face interaction where experts’ views on inter- and intra-agency coordination in fire disaster management were documented. With adequate consideration of ethical issues, question schedules and voice recorders were used to record key aspects of the discussions. Consents of participants were sought and granted before interviews were conducted and before field observations were made.

4 Results

This section presents the results of analysis of data obtained from primary and secondary sources. The major statutory organs that are responsible for fire disaster management were explored. The roles of key actors in fire disaster management and their implication for fire disaster risk reduction were reviewed.

4.1 Legal and Administrative Structure for Fire Disaster Management

The National Emergency Management Agency (NEMA) (Establishment Act) 1999 makes NEMA the major national specialist disaster management institution in Nigeria. The Establishment Act made the NEMA as the coordinating institution for disaster management in Nigeria. However, it is applicable only at the national level, since Nigeria operates a federal system where states are autonomous. States adopt the Establishment Act to suit their particular needs. As of 2012, 22 states in Nigeria, including Oyo State, have emergency management agencies backed by law (IFRC 2012).

Fire Service, at the federal level, was established in 1901 by the British colonial government as a unit within the Lagos Police Service Department to prevent and combat fire outbreaks in the Government Reserved Areas of Lagos Colony. It was known as the Lagos Police Fire Brigade.1

4.2 The Federal Fire Service (FFS)

In 1963, the Federal Fire Service (FFS) was established by the Fire Service Act, No. 11 of 1963 and it replaced the Lagos Police Fire Brigade. The restructured fire service unit was placed under the Federal Ministry of Internal Affairs and all the officers and staff serving in the Lagos Police Fire Brigade were also transferred to the FFS unit. At present, the FFS is a paramilitary organization under the supervision of the Minister of the Federal Ministry of Interior, with the Controller-General as its head. The FFS consists of four departments as shown in Fig. 2.

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1 http://fedfire.gov.ng/about-us/
From the review of the establishing law, the major functions of the FFS that are directly associated with managing fire disasters in major cities are prescription and monitoring of fire safety-related standards and encouraging the establishment of stations and fire posts by the State Fire Services. However, these are more of passive (nonstructural) efforts. More proactive measures are required to effectively manage fire disasters.

One of the points of convergence among the technical staff of FFS that were interviewed was that the existing capacity of personnel and equipment were clearly inadequate to carry out these “ambitious” functions. One of the field officers, who had worked at FSS, Oyo State branch, for over a decade, claimed that the institutional setup and the nature of funding of FSS would have to change to achieve sustainability in fire disaster management. Another staff of FFS, who belonged to the operations unit, argued that the resources and attention given to FSS from the central government was insufficient to execute the statutory functions attached to FSS.

The Oyo State Fire Service (OSFS) is the agency saddled with the responsibility of firefighting in Oyo State. The major institutional apparatus for fire disaster management in Oyo State is domiciled under two government agencies—the Oyo State Emergency Management Agency (OYSEMA) and the Oyo State Fire Service (OSFS).

### 4.3 The Oyo State Fire Service (OSFS)

The OSFS had 15 service stations across Oyo State, of which seven were domiciled in Ibadan. Table 1 shows the details of the seven public fire stations in Ibadan. Evidence shows that more than half (54.5%) of the LGAs in Ibadan had no government-owned fire station (Agbola and Falola 2021). The affected LGAs are Ibadan Northeast, Ibadan Northwest, Akinyele, Ido, Lagelu, and Oluyole. The situation was compounded by uneven distribution of the available fire service stations. Out of the seven fire stations available to serve the 11 LGAs in the city, five fire stations were sited at the inner LGAs. Two LGAs had two public fire stations—Ibadan North LGA (Fire Service Headquarters and Agbowo Fire Station) and Ibadan Southeast LGA (Molete and Mapo fire stations). One fire station (Alesinloye) was located in Ibadan Southwest LGA. The other two fire stations (New Gbagi and

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**Table 1** Public fire service stations in Ibadan

| S/N | Fire station          | Location                               | LGA           |
|-----|-----------------------|----------------------------------------|---------------|
| 1   | Headquarters          | State Secretariat, Agodi               | Ibadan North  |
| 2   | Agbowo                | Agbowo Shopping Complex                 | Ibadan North  |
| 3   | Molete                | Molete-Challenge Road                   | Ibadan Southeast |
| 4   | Mapo                  | Mapo Hill                              | Ibadan Southeast |
| 5   | Alesinloye            | Alesinloye Market                      | Ibadan Southwest |
| 6   | New Gbagi             | Bola Ige International Market          | Egbeda        |
| 7   | Agugu                 | Oremeji-Banana                         | Ona Ara       |
| 8   | Federal Fire Service  | Federal Secretariat, Ikolaba            | Ibadan North  |

*Source* Field survey, 2020
Agugu fire stations) were meant to serve the much larger and expanding six outer LGAs. Thus, it is safe to conclude that fire service stations were grossly inadequate in the city.

Three fire stations (Mapo, Agbowo, and Agugu) could not attend to emergency fire calls owing mainly to lack of firefighting vehicles. The situations at Mapo and Agugu fire stations were worse as the stations had been dormant for over a decade. None of the two fire stations responded to fire emergency between 2007 and 2021.

The most equipped fire station was the fire service headquarters. It was the only station that had a ladder vehicle. Four fire stations—Headquarters, Agbowo, Molete, and New Gbagi had pumpers. None of the fire stations in the state could boast of aerial fire apparatus. Field investigations revealed that, while there were fire officers on ground, firefighting vehicles and on-site water supply were inadequate. As highlighted in Table 2, only three fire stations had on-site water supply. These are Headquarters, Molete, and New Gbagi fire stations. During an interview with one of the fire officers on duty at Mapo fire station, it was revealed that “since the firefighting vehicle got damaged beyond repair over a decade ago, fire calls were always redirected to the fire service headquarters, which was about 6 km away.”

Furthermore, the available equipment in public fire service was compared with an international standard. Best practice standards are available for estimating the adequacy of fire stations. A typical example is the United States’ National Board of Fire Underwriters Standards (NBFU), which proposed a model for estimating the quantity of pumper, hose, and/or ladder companies needed to serve a settlement. The model is in the form of minimum standards that captures the population of the settlement, the settlement pattern, and the number and heights of buildings. Table 3 illustrates the NBFU-recommended highest travel distances in km between land use types and the nearest pumper and ladder companies.

When these standards were used to assess the situation in Ibadan, it indicated that a large majority of buildings did not meet the required standards. The result of randomly-surveyed buildings in Ibadan City showed that only 10.9% of the buildings were located within 1.5 km distance from the nearest fire station. Those that were located within 2 km distance from the nearest fire station accounted for 24.7% of the buildings, those located within 3 km distance were 49.2%, while those that were located within 3.5 km distance represented 56.7% of the surveyed buildings.

Figure 3 shows the five fire service stations that responded to emergency fire events between 2007 and 2018. Within this 12-year period, the fire service headquarters responded to almost 50% (1707 fire cases) of the total fire events documented. Following this was Molete and Aleshinloye fire stations, which attended to 1019 (29%) and 397 (11.3%) fire cases, respectively. The fire service headquarters and Molete fire station were the only stations that were consistently active throughout the study period. Aleshinloye fire station was inactive in 2017 and for the most part of 2018.

The lot that was meant for firefighting vehicles was turned into a temporary car park and warehouse for plastic retailers (see Fig. 4). Gbagi (6.6%) and Agbowo (4.5%) had relatively lower response to fire emergencies. This is connected to the fact that Gbagi fire station was inactive between 2007 and 2011 and Agbowo fire station was inactive between 2015 and 2018. The main reason for the protracted period of

| S/N | Fire station          | No. of pickup vehicles | Water tankers | No. of pumper vehicles | No. of ladder vehicles | Aerial fire apparatus | On-site water supply |
|-----|----------------------|------------------------|---------------|------------------------|------------------------|-----------------------|---------------------|
| 1   | Headquarters         | 2                      | 1             | 5 (2)                  | 1                      | –                     | Yes                 |
| 2   | Agbowo               | –                      | –             | 1                      | –                      | –                     | No                  |
| 3   | Molete               | 1                      | –             | 2                      | –                      | –                     | Yes                 |
| 4   | Mapo                 | –                      | –             | –                      | –                      | –                     | No                  |
| 5   | Alesinloye           | –                      | –             | –                      | –                      | –                     | No                  |
| 6   | New Gbagi            | –                      | –             | 1                      | –                      | –                     | Yes                 |
| 7   | Agugu                | –                      | –             | –                      | –                      | –                     | No                  |
| 8   | Federal Fire Service | 1                      | –             | –                      | –                      | –                     | –                   |

Source: Field survey, 2020

| Land use/region                  | From pumper, hose, or pumber-ladder company | From ladder company |
|----------------------------------|---------------------------------------------|---------------------|
| High-value (commercial, industrial, institutions) | 1.21                                        | 1.61                |
| Other commercial areas           | 2.41                                        | 2.41                |
| High density residential area    | 2.41                                        | 2.41                |
| Residential                      | 3.33                                        | 3.22                |
| Scattered development            | 4.83                                        | 4.83                |

Source: American Planning Association (1957)
Fig. 3 Response of Ibadan fire stations to fire emergency between 2007 and 2018. Source Field survey, 2019.
inactivity, according to the staff in these stations, was unavailability of firefighting vehicles. Other factors identified included unavailability of fire extinguishers.

The fire service headquarters consistently had the highest response, apart from 2007 for which the data were not available and 2010, for which Molete fire station recorded the highest response (Fig. 3). In 2015, 2016, 2017, and 2018, fire service headquarters attended to more than half of all fire cases, as it recorded 198 (51%), 173 (59.7%), 178 (82.4%), and 161 (62.9%) fire cases, respectively. Molete fire station’s highest contribution to annual fire response was recorded in 2010 with 34.9% of all fire cases. Aleshinloye fire station’s largest contribution (22.4%) to fire response was also recorded in 2010. Barring year 2016, when Aleshinloye fire station recorded the second highest, Molete fire station was consistently the second most functional station annually.

4.4 The Oyo State Emergency Management Agency (OYSEMA)

The establishment of the OYSEMA was legally supported by the NEMA Establishment Act of 1999 and aimed at managing emergencies and disasters in the Oyo State. According to Oyo State of Nigeria (2009), the enabling law—Oyo State Emergency Management Agency Law, 2008—empowers the OYSEMA to carry out responsibilities of reducing disaster risks in Oyo State by formulating policy on disaster management-related activities; responding to all emergency situations; facilitating supply of resources required for search and rescue and other post-disaster crisis management activities; distributing post-disaster relief packages to disaster-affected individuals and groups; and advancing disaster management capacity, and organization of safety awareness and public enlightenment. Thus, the focus of the agency was meant to be generic taking into account all categories of disasters in the state. However, these functions are quite ambitious, cutting across the major phases of disaster management. Consequently, the agency has not been effective in all the functions. The OYSEMA singled out three key areas of function of the agency:

1. Monitoring of the level of preparedness of organizations/agencies that may support disaster management;
2. Facilitating public awareness and carrying out community enlightenment programs on disaster risk reduction measures; and
3. Distribution of relief items and aid materials to disaster-affected individuals and groups and facilitating post-disaster recovery.

The first two functions are proactive (pre-disaster) measures while the third function involved post-disaster (crisis) response. Based on the field study, the OYSEMA was more active in the post-disaster response activities. Evidence from the field survey and the review of major activities of the agency showed that the core areas of involvement of the agency in fire management were: coordination and facilitation of supply of resources required for search and rescue and other post-disaster crisis management activities within the state; collation of data from the OSFS on fire disaster and vulnerable communities in order to facilitate disaster risk management; and distribution of relief items and aid materials to disaster-affected individuals and groups and facilitation of post-disaster recovery.

On facilitating the provision of resources for search and rescue activities, for instance, the OYSEMA assisted in clearing burnt debris at the Molete fire disaster that occurred on 14 October 2014. It was documented that the debris evacuated included 10 cars, two buses, one tricycle, 10 motorcycles, and one tanker truck (trailer).

Concerning collation of fire disaster data, the field study showed that the OYSEMA regularly requests formal fire records from the OSFS. However, the fire record that the agency had was a summary of the monthly fire cases, which was not detailed enough for adequate analysis. There was no structure in the OYSEMA for documenting all fire
disasters that occur in the state. There were only records of fire disasters that were assessed for possible government aid measures.

On the distribution of relief materials to fire-affected persons, the agency worked on an observation-assessment-recommendation basis. The first step is to observe the post-disaster situation to confirm (with pictorial evidence) that the incident did occur and to validate the claims of the affected persons. In most cases, the fire-affected persons, groups, or organization would write to the state government to request assistance. This often attracted some form of lobbying and politicking to facilitate such requests. The request would then be forwarded to the OYSEMA for appropriate actions. Following a request, the agency would carry out a detailed assessment of the fire disaster, in terms of the nature, causes, and location of the disaster, and estimated losses and name(s) and address(es) of the affected persons. This would be done by setting up a team of assessors to conduct on-the-spot assessments at the scene of the fire disaster and write a report. The report would be analyzed to ascertain if the level of damage exceeded the coping capacity of the affected persons and if there would be need for the government’s intervention to facilitate recovery. Having evaluated the fire disaster, the agency would make a decision in the form of recommendations to the state government on the need to assist the affected persons in recovering from the impacts. The detail of the proposed intervention would be attached to the report that would be forwarded to the state Governor. The agency would then wait for further directives from the Governor to take further actions.

The relief packages distributed by the government through the OYSEMA included household goods (cooking pot, cooking kettle, cooking stove, mosquito net, blankets, bucket, detergents, soaps, clothes, towels, bed sheets, mattresses, mats, pillows, and food plates); food items (beverages, noodles, drinking water, rice, beans, maize, and cooking oil); and building materials (roofing sheets, cement, planks, and nails). Premised on its budgetary provision, the bulk of the expenditure of the agency was usually on this aspect. In its annual statistical analysis of distribution of the relief materials published in 2015, it was disclosed that “As a way of mitigating the effect of disaster on victims, the agency in collaboration with NEMA distributed relief materials worth billions of Naira in the Year 2014 across the length and breadth of Oyo State”.

In the 2016 version of the report, it was documented that the agency in 2015 “distributed relief materials worth millions of Naira to the victims of fire disaster at Gaa Garuba in Iwere-Ile Local Government Area.” In September 2016, almost a year after the December 2015 fire disaster that occurred at Iso-Pako market in Sango, the OYSEMA revealed that “relief materials worth several millions of Naira were distributed to victims of [the] fire disaster [...] to cushion the effect of damages done to the victims.” However, formal lists of expenditure on relief materials were not made available for further analysis.

The OYSEMA revealed that prior to the 26 August 2011 flood disaster that affected all 11 LGAs in Ibadan, the agency employed traditional disaster management strategies that emphasized relief measures, which became ineffective and largely reactive as opposed to being proactive in reducing risk. More effort and resources were channelled to post-fire disaster management while little effort was focused on fire disaster risk reduction. In one of the few pre-disaster measures carried out in 2012, the OYSEMA organized fire drills at selected public agencies to create awareness of fire disaster risk reduction in workplaces and carried out community awareness and enlightenment activities by distributing handbills, fliers, pamphlets, and posters. However, these are mostly conducted in communities where fire disasters recently occurred, at the point of assessment of post-fire damage and or during distribution of relief package. In addition, most of these measures focused on floods, rain storms, civil strife, and road crashes. Another proactive measure undertaken was collaboration with a radio station (Impact Business Radio) in disseminating information on disaster risk reduction and communicating early warning to the public.

4.5 The Emergence of Private Fire Service Providers

Field investigations and observations revealed that government-owned firefighting services in the study area were often done on a spontaneous and ad hoc basis. This was mainly due to the lack of adequately equipped fire stations and personnel to carry out proper routine and methodological preparations and guidelines for firefighting. Although the Oyo State government sponsored television and radio campaigns, warning on the risks and danger of fire during the dry season, long-term prevention and mitigation of urban fire seemed to be absent.

Owing to this inadequacy, attempts at managing fires were made by some public and private institutions and organizations. Specifically, the Ibadan Depot of the Nigerian National Petroleum Corporation (NNPC) in Ido LGA; the University of Ibadan and the Polytechnic, Ibadan in Ibadan North LGA; the Central Bank of Nigeria, Oyo State branch; Cocoa and Heritage Malls in Ibadan Northwest; and the International Institute of Tropical Agriculture (IITA) in Akinyele LGA all have dedicated sections equipped for firefighting.

2 https://oyostate.gov.ng/oyo-state-emergency-management-agency

3 https://oyostate.gov.ng/oyo-state-emergency-management-agency
The results of separate interviews conducted in all these private organizations pointed to the failure of the government fire service (OSFS and FSS) to provide prompt and required service during fire emergencies. Previous fire disasters that damaged buildings and properties compelled the organizations to set up well equipped modern firefighting sections within the premises of the organizations. For instance, the procurement of fire trucks at the Central Bank of Nigeria (CBN), Ibadan branch, located at Dugbe in Ibadan Northwest LGA, was a response to the February 2006 fire disaster that destroyed the 7th floor of the building that contained the conference, development, and finance departments. It was reported that the fire had raged for over three hours before OYSF could quench the fire.

Similarly, the Cocoa and Heritage Malls realized the urgency of a private fire service after one of the outlets that was occupied by a cinema was destroyed by a fire disaster in January 2015. The mall’s management employed the services of a private fire service to prevent recurrence. Similarly, recurrent fire disasters in student halls of residence, staff quarters, faculty, departmental, and administrative buildings at the University of Ibadan in Ibadan North LGA informed the construction and equipping of a modern fire service section.

5 Discussion

In practice, the management of fire disasters by government institutions is mainly reactive. Different public agencies were responsible for different aspects of disaster management. Our results suggest weak institutional preparedness capacity, resources, and equipment to effectively manage fire disasters in buildings.

From the review of the administrative structure of FFS, it is apparent that the Federal Capital Territory, Abuja, which is the administrative and political headquarters of Nigeria, was the best equipped city in terms of fire service personnel and equipment. The fact that the FFS did not have its offices and stations in all the states of the federation is also a testament to this. The gross inadequacy of personnel and equipment agrees with Agbili’s (2013) findings that among paramilitary forces and agencies in Nigeria, the federal fire service was the least equipped in terms of infrastructure and staff. Agreeing with Egunjobi and Falola (2017), many state governments, mindful of the low coverage of the FFS and their social and constitutional responsibilities to protect lives and property, established state-owned fire services.

The OSFS had the mandate to ensure effective fire mitigation, preparedness, and response in Ibadan City. However, the available equipment and personnel pointed to weak preparedness capacity to tackle emergency fire events. The agency was not furnished with adequate institutional apparatus to prepare for fire disasters. Fire stations were inadequate and the available ones were clustered in space. Fire service stations, firefighting vehicles, and water supply were grossly inadequate as only five out of the 11 LGAs in Ibadan had a public fire service station. Available fire stations fell short of international standards. This shortage was compounded with uneven distribution of fire stations across LGAs and lack of adequate firefighting equipment. The fact that fire stations were not evenly distributed implies that the level of preparedness varied across the city. Similarly, the available fire stations had different preparedness capacities based on differences in facilities, equipment, and personnel, as also revealed by Jonsson et al. (2017). The gross inadequacy of fire stations and firefighting equipment, as identified in this study, is a root cause that subjects Ibadan to high vulnerability to fire disaster. The high level of inadequacy of firefighting equipment has implications for institutional preparedness for a fire emergency. This, according to Agbola and Falola (2021), makes it difficult to ensure that vulnerable people gain prompt response to a fire emergency. Fire stations were not just inadequate; even the available ones were not adequately equipped. This finding supports the assertion of Agbola and Falola (2021) that no firefighting vehicle has been procured in the city in 15 years.

Our results suggest that the OYSEMA’s basic role in fire management was more of a channel where the state government provides aid measures and distributes relief items to individuals or groups affected by fire disasters. The best proactive measures that the agency undertook included awareness campaigns, community sensitization, and education on fire safety precautions and risk reduction, which were mostly done through media jingles on radio and television stations. In corroborating this finding, a civil servant retiree who had lived in Ibadan for over three decades revealed during an interview that the ruling parties often preferred to support individuals or groups that are directly affected by fire disasters by providing them with building materials (like roofing sheets and bags of cement), household goods (like mattresses and bed sheets), and money. This, according to him, was “to score political points” and win the hearts of the electorate.

There was no integrated institutional coordination for fire management between the three statutory bodies saddled with the responsibilities to manage fire emergencies. This poses a great burden on preparedness capacity. The bulk of state resources was channelled towards post-disaster relief and aid distribution to disaster-affected persons through the OYSEMA while the pre-disaster mitigation and preparedness phases (mainly executed by OSFS) were poorly funded. The lack of synergy among emergency agencies was consistent with previous studies, such as Jonsson et al. (2017), which identified increased fire risks as a result of inadequate cooperation between relevant urban departments. The result
was also in line with Wahab and Falola’s (2016) findings that attributed urban encroachment on high disaster risk areas to lack of coordination among stakeholders in disaster management.

During the post-fire disaster reconstruction phase, little emphasis is placed on structural mitigating measures, such as provision of fire hydrants, firefighting equipment, sprinklers, and fire alarms in buildings. The relationship between increased fire disaster risks and failure to prioritize preparedness measures, like lack of financial commitment to setup fire stations and to purchase firefighting vehicles, was established in previous studies, such as Jonsson et al. (2017) and Shokouhi et al. (2019). Consequent upon institutional preparedness inadequacy, attempts at managing fires were made by some public and private institutions and organizations to set up well-equipped modern firefighting sections within the premises of the organizations. These organizations pointed to the failure of the OSFS and FSS in providing required service promptly during previous fire emergencies.

6 Recommendations

There was a consensus among stakeholders in fire management that, instead of putting so much resources on relief distribution, the government should focus more on sustainable approaches to fire disaster management, such as fire risk awareness, training on fire risk reduction, enforcement of fire safety regulations, creation of public awareness on fire safety. As evident in this study, there was a disjointed and fragmented approach to fire management with the government and private or public institutions focusing on post-disaster response activities. The state government was more empowered to respond to fire disasters, rather than reducing vulnerabilities to fire disasters through efficient preparedness measures. In other words, more resources were devoted to crisis management (such as search and rescue and aid measures) rather than risk reduction (mitigation and preparedness).

The government channelled more effort and resources to post-fire disaster management while little efforts were focused on fire risk reduction. There was a lack of state investment in long-term vulnerability reduction through structural measures (such as provision of community water supply and hydrants and establishment of more fire stations) and nonstructural measures (such as enforcement of fire safety regulations and creation of public awareness on fire safety). As evident in this study, there was a disjointed and disintegrated approach to fire management. Matters relating to fire risk reduction were domiciled under the OYSEMA.

7 Conclusion: Policy Implications of the Existing Institutional Structure for Fire Disaster Management

This study highlights the legal and administrative structure for fire disaster management, with emphasis on equipment and facilities available for institutional preparedness for fire emergency in a typical Nigerian city, Ibadan. The management of fire disaster was disjointed as post-disaster response and recovery activities were prioritized at the expense of pre-disaster mitigation, prevention, and preparedness measures. This study revealed that the state emergency management agency was more empowered to respond to fire disasters, rather than reducing vulnerabilities to fire disasters through efficient preparedness measures. In other words, more resources were devoted to crisis management (such as search and rescue and aid measures) rather than risk reduction (mitigation and preparedness).

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while emergency response to fire disasters was the prerogative of the OSFS. Consequently, management practices in anticipation of fires were weak on the parts of the government, communities, and individuals; and adequate actions were not taken to improve the capacity of communities and institutions to prepare for emergency events. These inadequacies are subject to weak urban governance.

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