



RESEARCH ARTICLE

AN ASSESSMENT OF EMERGENCY SERVICES IN LAGOS MAINLAND LOCAL GOVERNMENT AREA, LAGOS STATE, NIGERIA

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ABSTRACT

Rapid urbanization driven by population growth in many cities like Lagos State continues to put pressure on available state resources. One of these critical resources are emergency services provided by the police, fire services and hospitals. This study evaluated the distribution of these facilities in Lagos Mainland LGA and assessed the perception of residents on service quality, while also examining challenges to optimum delivery from the perspective of providers. Field surveys to acquire the locational coordinates of facilities and social surveys to collect perception data were carried out. Four (4) police stations and general hospitals each, and three (3) fire stations were identified. Fire incidents were the most significant emergencies experienced by residents and about 77 percent requested for service through phone calls to providers. Inadequate resources and equipment were the primary challenges identified by providers (50 percent) and as expected, 44 percent suggested investment in equipment upgrade as the urgent intervention required. The study recommended collaboration with private providers to augment emergency service among others.

Keywords: Emergency, Perception, Service, Response, Collaboration

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1.0. INTRODUCTION

Emergency services are an essential element of a functional society and their significance in recent decades cannot be overemphasized with increase in frequency of both natural and man-made incidents. The rapid rate of urbanization in certain regions like Lagos, Nigeria, puts more emphasis on the need for access to reliable services. More so, Cabral et al., (2018) noted that population growth produces increase in the number of emergency events and challenges available resources. Despite significant investments in emergency management, Lagos continues to face logistical challenges in optimizing emergency response.

The terms emergency and disaster are sometimes used interchangeably but they vary in some perspectives. In the framework of response, they were differentiated by the United Nations; emergency referring to an event that can be handled using available resources and disaster as one with impact that overwhelms local capacity. To Al-Dahash, Thayaparan and Kulatunga (2016), a disaster will likely affect more people with more devastating consequences and is inherently an emergency situation. Emergencies in this context refer to events that have the potential to cause injury, loss of life, damage to property and disruption of daily activities.

Emergency service providers are not only tasked with response to small-scale events but must also be actively involved in the whole spectrum from prevention to recovery. Haddow and Haddow (2014) defined emergency services as a set of resources and procedures adopted to manage emergencies from medical to fires and natural disasters. Seyedin *et al.*, (2021) noted the importance of these services for promoting public safety, preserving life and property, and eventually mitigating the impacts of emergencies. This importance can only be optimized with appropriate infrastructure, trained personnel and well-coordinated systems.

The emergency services being considered in this paper are ambulance services, fire and rescue services and the police service. Ambulance services provide timely and safe transport of victims to relevant healthcare facilities. This can be hampered by inadequate ambulance capacity and poor road networks which could lead to delayed response times and poor health outcomes. Unavailable medical supplies and trained personnel would lead to similar outcomes (Owoyemi *et al.*, 2020).



Police services provide law and enforcement, maintain law and order and ensure public safety amongst others. In several regions, they are often the first responders during incidents. This is not unusual in Lagos where police formation is relatively more available than other services. They play a critical role in coordination and response and ensuring security of both victims and other responders. Kendra and Wachtendorf (2006) noted that their effectiveness could be impaired by lack of coordination, inadequate resources and personnel training.

The fire and rescue services provide rescue and recovery services during incidents such as fires, building collapses and floods. They also provide essential support to the ambulance and police services (Lanfranchi, 2017). These three services are mostly controlled by the public authority except a few private fire service outposts attached to private companies and ambulance services provided by private healthcare facilities. This paper focuses on government owned service providers seeing as they are more accessible to residents in the study region.

The assessment of emergency services has been of interest over time with focus on three factors that are critical for optimal service delivery; accessibility, availability, and responsiveness. Availability as a subset of accessibility refers to the presence of adequate resources and personnel. Accessibility, however, describes the ease of reaching emergency services while responsiveness is a factor of speed and quality of service provided. Ultimately, the essence of the evaluation of emergency services is to identify gaps in set up and operation and suggest practical solutions to ensure efficient and effective delivery. The aim of this paper is thus to assess the spatial distribution of emergency services and residents' perception of their efficiency in Lagos Mainland LGA.

Locational analysis is imperative in such evaluations as it assesses the geographical placement of emergency service facilities such as fire stations, hospitals ambulance points and police stations. There have been several attempts in different regions to conduct such an analysis. One of these was by Obudu *et al*, (2023) who found that the distribution of healthcare facilities in Lagos state was uneven. Daramola and Bello (2023) on their part found a mild significant relationship between reported emergencies and availability of healthcare facilities in Lagos state. The unpredictable nature of emergencies makes it difficult



to anticipate their exact locations and timings, further complicating response efforts (Akinyemi et al., 2021). Jenex (2007) suggested that an analysis of historical data is critical to building information that will bolster emergency preparedness and reduce the influence of such uncertainties. This study thus combines three service providers via ambulance, fire and rescue, and police to try to understand the rationale behind their locational patterns in Lagos Mainland local government area.

Public perception of emergency services is also a crucial factor determining the effectiveness of such services. Indeed, public perception can either influence its use positively or negatively based on past experiences and the amount of knowledge made available to the public. Negative perception can restrain the willingness of residents to seek help during emergencies or even comply with preparedness guidelines released by authorities (Choi and Wehde, 2020). This is mostly driven by trust deficits in emergency service delivery and ultimately leads to delayed response and inadequate care. The paper thus examines the perception of residents in Lagos Mainland LGA about accessibility and efficiency of emergency service delivery in the region.

Beyond the residents' perception, there is a need to assess the perception of emergency service providers as this determines motivation and commitment to the provision of effective service. Issues such as working conditions, resource availability, training opportunities and challenges during operations are brought to the fore. Elkady *et al.*, (2022) noted that limited empirical research has focused on directly capturing the perspectives of emergency practitioners regarding their needs and expectations from society to more effectively manage crises. Hence, this paper also analyzed the perception of emergency service providers in Lagos Mainland LGA on the challenges to efficient service delivery in the region.

2.0. DESCRIPTION OF THE STUDY AREA

Lagos Mainland LGA is located between Latitude $6^{\circ}27'45''$ ¹¹ and $6^{\circ}31'30''$ ¹¹ North of the Equator and Longitude $3^{\circ}22'0''$ ¹¹ and $3^{\circ}24'25''$ ¹¹ East of Greenwich Meridian. Lagos Mainland LGA is one of the 20 LGAs in Lagos State and covers an area of about 19.68 square kilometers and has an estimated population of over 1.3 million people, making it one of the most populous and diverse LGAs in Lagos State (Lagos State Government, 2021). The LGA

is bounded by the Lagos Lagoon to the south, Lagos Island LGA to the Southwest, and Mushin LGA to the north-west.

Lagos Mainland LGA is an urban area with many industries, commercial centres, and residential neighbourhoods. It has a mix of low-income and high-income neighbourhoods, with a significant proportion of the population living in informal settlements. The LGA is characterized by high population density, inadequate infrastructure, and limited access to basic services such as healthcare, education, and sanitation.

Due to its location and high population density, Lagos Mainland LGA is prone to various emergencies, including flooding, building collapses, fire outbreaks, and traffic accidents. It is home to several institutions like the University of Lagos, Federal College of Education and Yaba College of Technology amongst others. A total of 4,586 cases were reported to the Lagos State Emergency Management Agency (LASEMA) from 2010-2019 and Lagos Mainland had about 8 percent of this with an annual average of 35 cases (Daramola and Bello, 2023). These cases ranged from fire to collapsed buildings, road accidents etc. The frequency and intensity of these emergencies highlight the critical importance of effective emergency services in the area.

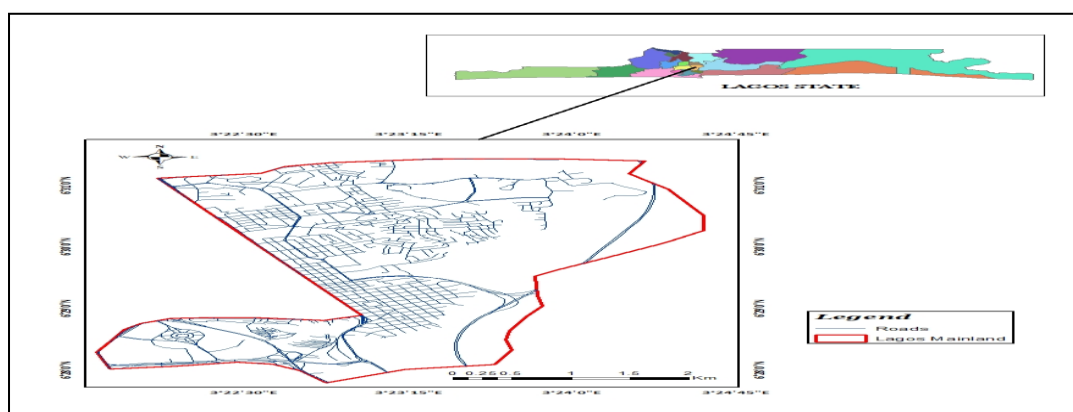


Figure 1: Lagos Mainland Local Government Area.

Despite its diversity and vibrancy, Lagos Mainland LGA faces several challenges, including inadequate infrastructure, traffic congestion, and a high crime rate. These challenges make emergency services critical to the safety and well-being of the area's residents. Emergency service providers in the LGA include the Lagos State Emergency Management Agency

(LASEMA), Lagos State Ambulance Service (LASAMBUS), Lagos State Fire and Rescue Service (LSFRS), and the Nigeria Police Force (NPF).

3.0. MATERIALS AND METHODS

The study set out to establish the distribution of public emergency service agencies in Lagos Mainland thus a Handheld GARMIN GPS was used to acquire the coordinates of all the identified outfits. These were inputted into the ArcGIS environment and mapped accordingly. In order to determine the perception of residents on emergency services and operational challenges experienced by emergency officials, two sets of structured questionnaires were administered, one for each group. A total of 220 copies of the residents' questionnaire were administered using the stratified sampling method where 20 respondents were selected from each ward. On the other hand, 40 emergency service officers were selected from the outfits represented within the local government area. Their responses were thereafter analyzed using measures of central tendency and cross-tabulation.

4.0. RESULTS AND DISCUSSIONS

The emergency services evaluated in this paper include police services, fire and rescue services and ambulance services attached to general hospitals. There are four (4) identified police stations in the region, three of which are concentrated in the middle, and one outpost at the south-western edge (Figure 2)

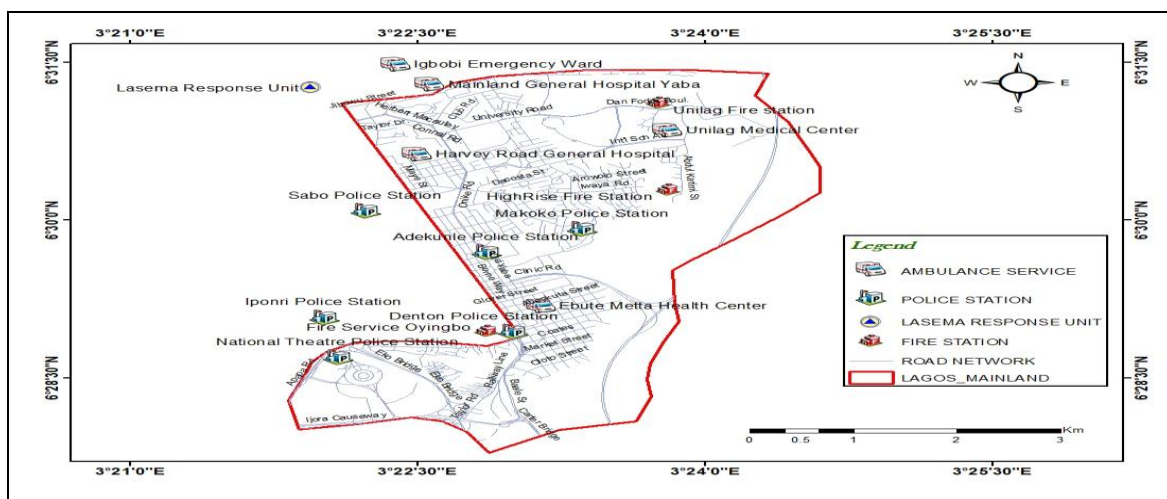


Figure 2: Distribution of public emergency service facilities in Lagos mainland LGA



The Nigeria Police Force has its own way of determining coverage areas for their outposts, yet the pattern suggests a need for better geographical spread. It should be noted however, that the Lagos State-funded Rapid Response Squad has officers stationed on major highways across the state to achieve faster response to emergencies.

Four (4) public general or 2nd-tier hospitals were identified in the region including three (3) state-owned and one (1) University-operated hospital. These are the ones that are equipped to respond to emergency cases beyond primary-level issues. Three of these were also noted to be concentrated in the northern section of the study area, one just in the southern section.

Three (3) fire units were identified in the region, 2 of which were within the University of Lagos and 1 at Oyingbo, operated by the Federal Fire Service. Efforts are however being made by the State government to establish at least one fire station in every local government area.

The perception of residents in Lagos Mainland LGA on emergency services was assessed and results indicate that a relatively low percentage of respondents had used emergency services (19.25 percent), while the majority have not (80.12 percent). About 60 percent however claimed that emergency services are easily accessible to them either physically or by calls.

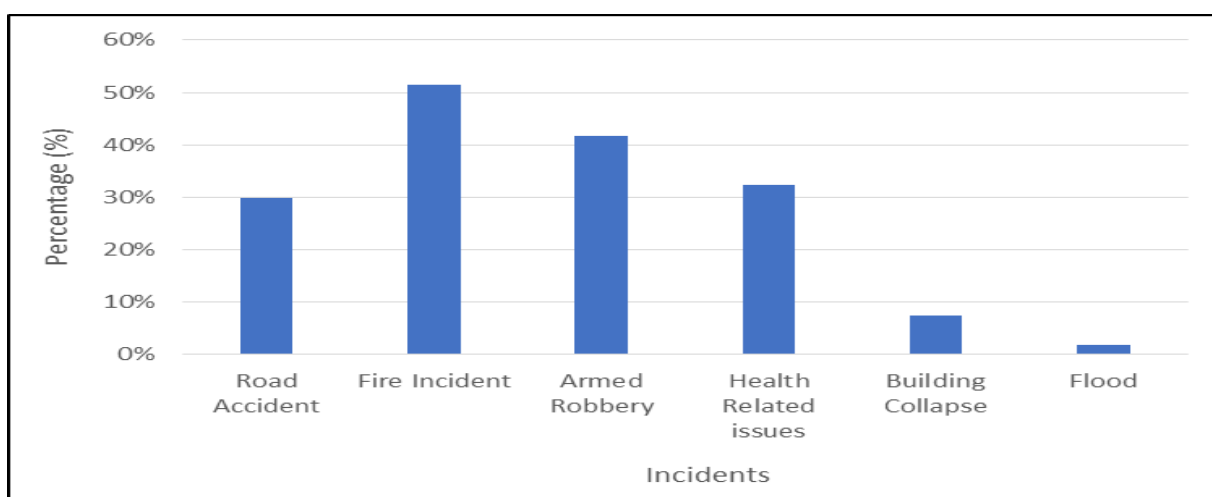


Figure 3: Incidents witnessed by respondents in the past 5 years.

Source: Authors Analysis (2025).

On the other hand, a smaller portion (18.63 percent) indicated that these services were not easily accessible; about 76 percent of these were those who hadn't used it before for lack of



confidence in their capacity to deliver) while a similar percentage were unsure (21.12 percent). The main incidents experienced or witnessed by respondents in the last five years were assessed where most commonly encountered incidents were fire incidents (51.55 percent) and armed robbery (41.61 percent), followed by health-related issues (32.3 percent) and road accident (29.81 percent) (Figure 3).

This data showcases the incidents that respondents have experienced or witnessed in Lagos Mainland LGA. The A smaller portion of respondents indicated experiencing building collapses (7.45 percent), and a few respondents mentioned witnessing floods (1.86 percent). This distribution highlights the variety of emergency situations that residents have faced or been exposed to in the area. For most residents, the unwillingness to request for emergency services during floods could be tied to the predominance of flash floods which they mostly wait out to recede, and the perception of the inability of emergency services to respond to such incidents.

Residents' perception of emergency services is usually based on observations during emergencies, hence about 59 percent noted that response times were between 15 to 30 minutes as depicted in Figure 4.

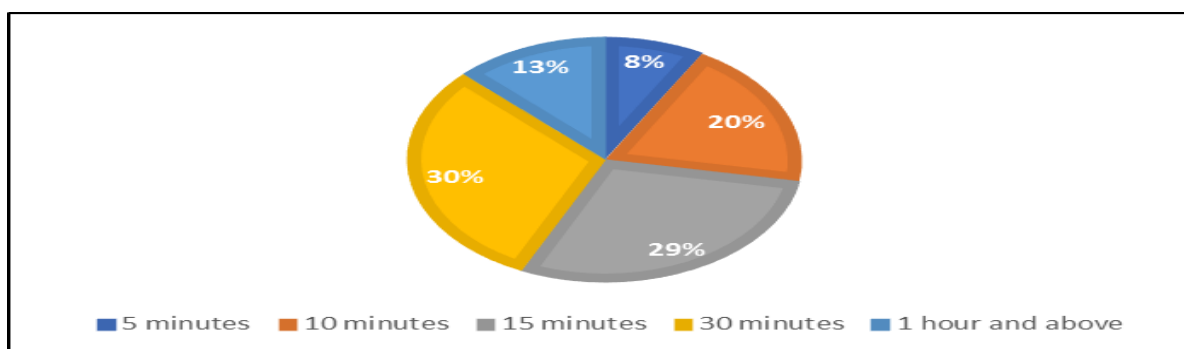


Figure 4: Residents' perception of emergency service response time
Source: Authors Analysis (2025).

About 28 percent of the respondents stated that services were made available in less than 10 minutes while the remaining 13 percent claimed response time was above one hour. Efforts to reach the emergency services were mostly by phone call as dominantly supported by 77 percent of the respondents in the series (Figure 5).

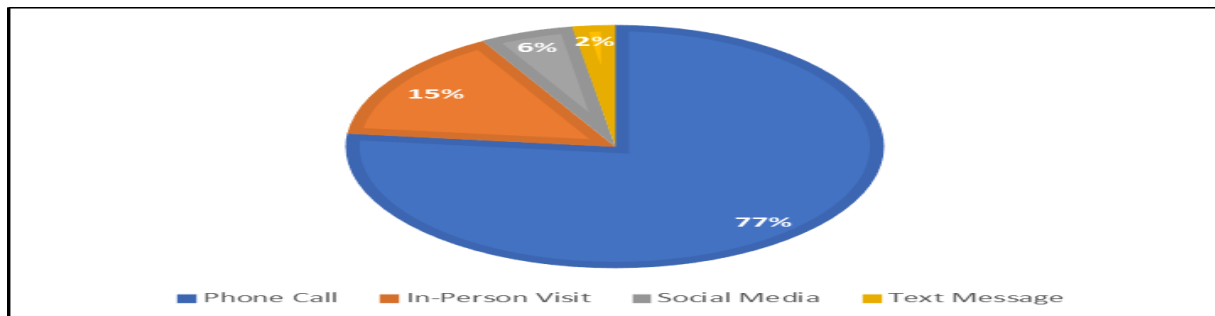


Figure 5: Mode of contact with emergency service providers
Source: Authors Analysis (2025).

This could either be the 112/767 emergency line or specific mobile numbers attached to the emergency facility center. A smaller portion of respondents mentioned other methods such as in-person visits (14.91 percent), social media (5.59 percent), and text messages (2.48 percent).

Emergency service providers face different challenges in the dispatch of their duties, some of these were evaluated. About 50 percent of the service providers noted that limited or inadequate resources/equipment was the primary challenge followed by the high workload (Figure 6)

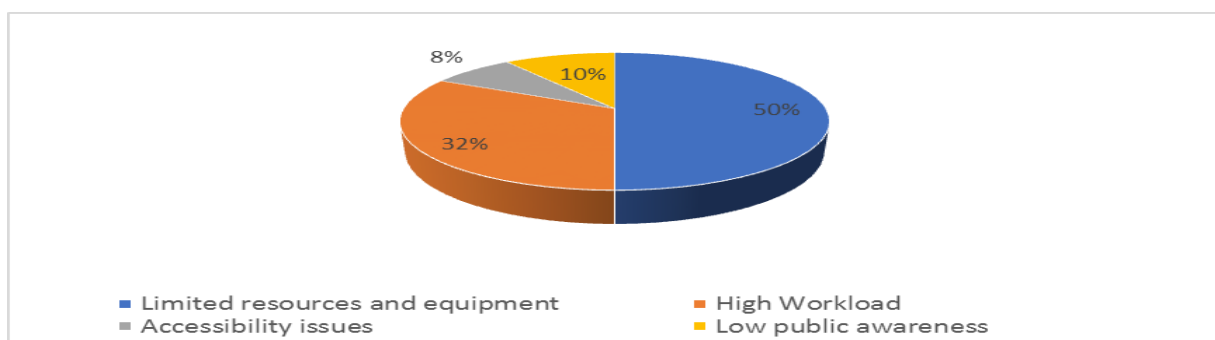


Figure 6: Primary challenges of emergency service provision in Lagos Mainland LGA

The emergency management system of any community must involve strong collaboration among providers for it to be efficient. Provider respondents (48.78%) described the level of collaboration with sister agencies as mostly good, with room for significant improvement, especially beyond activities during response (Table 1). Resource sharing among providers can go a long way to reduce wastage and duplication of efforts in this regard.



Table 1: Perception of level of Collaboration among Emergency Service Providers

Response Variable	Percentage
Excellent	9.76%
Good	48.78
Moderate	39.02
Limited	2.44
Poor	0.00
Total	100

Source: Authors Analysis (2025).

It is also important to understand the core areas where investment should be made for improved emergency service delivery. Providers were asked to suggest what they thought was most important, and about the same number of respondents (43.9%) stated this as upgrade of equipment and technology, and increased staffing and resources.

Table 2: Most Important Intervention Needed for Optimum Service Delivery

Response	Percentage
Enhanced training and professional development	4.88
Improved communication systems	7.32
Upgraded equipment and technology	43.9
Increased staffing and resources	43.9
Total	100

Source: Authors Analysis (2025).

In a rapidly urbanizing region like Lagos Mainland LGA, there is a need to equip providers with requisite equipment such as aerial platforms to suppress fire in tall buildings, communication gadgets, etc. At the same time, investment in workforce and capacity building to enhance professionalism is also critical.

5.0. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

Emergency service systems are can only be optimal if there is synergy between providers and residents of the community. This study provided a spatial context to the distribution of public emergency services in Lagos Mainland LGA while also assessing the perception of providers and residents on the current state of the emergency system. Collaboration among providers



across agency and ownership has become imperative in view of the limited resources available to each. This is expected to increase significantly the level of residents' trust in the capacity of service providers and subsequently facilitate more cooperation.

5.2. Recommendations

The study thus recommended the following:

1. Development of an emergency resource database that would facilitate information and resource sharing that includes private facilities.
2. Periodic demonstration and basic trainings to be organized by service providers at public places such as markets, schools, to engender them more to residents.
3. Continuous analysis of response times and constraints to optimum service delivery.
4. Development of operational collaboration with private to provide assistance where public facilities are unavailable.

Competing Interest

The authors declare that no conflicting interest exist in this paper

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