CAUSES AND CONSEQUENCES OF FIRE DISASTER IN SELECTED ACADEMIC LIBRARIES IN NORTHERN NIGERIA

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Abstract
This study specifically investigated the causes and consequences of fire disaster in three selected academic libraries in northern Nigeria. The study adopted a mixed research method, using documentary evidences, interview and a structured questionnaire as instruments for data collection. The findings of the study revealed a number of factors as causes of the fire disaster and the resultant effects on the libraries studied; the extent of damage, loss and recovery; as well as the state of preparedness of the libraries for fire prevention, protection and recovery. Based on the findings of the study and challenges identified, appropriate recommendations were offered for improvement, which include among others the formulation of a disaster management policy, provision of modern fire prevention and fighting equipment/facilities, proper training of library staff and sensitization of patrons on the effective use of the equipment/facilities available.

Key Words: Fire Disaster, Fire Disaster Management, Fire Causes, Nigerian Academic Libraries

Introduction
It is common knowledge that libraries have the primary responsibilities of acquiring, organizing and disseminating relevant information resources needed by their patrons. In addition, it is also necessary for the libraries to ensure proper maintenance, security and preservation of the available information resources in order to avoid any possible loss, damage or destruction by natural or artificial disaster. According to Mathews and Feather (2003), Nyanga, Nengomasha and Beauas-Amiss (2018), disasters whether natural or artificial are part of human existence and are by their nature unpredictable. They pose harm or threat to the safety of buildings, collections and
equipment. In the same vein, Superio, Alayon and Oliveros (2019) indicated that some of the natural disasters can either be small-scale like those caused from leaky roofs and malfunctioning plumbing or catastrophic in nature such as those caused by floods, fires, earthquakes, hurricanes, volcanic eruption and wars.

Rasaki (2019) observes that disasters could be caused by either natural phenomena such as floods, earthquakes, and storms or by human attributable activities such as vandalism, arson, accident, theft, burglary and building collapse. Natural disasters can never be prevented but their effects can be mitigated to some extent. However, the man-caused disasters are usually very preventable. Certainly, disaster, whether natural or artificial, generally have negative consequences on the economic, social, psychological, health and environmental activities of the affected people and organizations. For libraries, the social and psychological effects of losing valuable materials can be unprecedented for both the patrons and parent organization. This is due to the fact that users are denied access to information resources while the parent institution is left with the financial burden of any renovation, reconstruction, and rehabilitation of the damaged building as well as the recovery and replacement of the lost materials.

It is evident that fire and water are the most common disasters for libraries, archives and museums. This could be attributed to the nature of the collection contained in such institutions which are susceptible to fire, flood and pests. The National Archives and Records Administration (NARA) (1996) listed fires, hurricanes, earthquakes, floods, sabotage, civil disturbance and terrorism as disasters that can possibly affect libraries. However, it is argued that, among all the human attributable disasters, fire is the most overwhelming and dominant because it can cause total loss, destruction or damage not only to the immediate building and properties but also to the surrounding environment through massive production of heat, gases and fumes (Grau, 2000; Okwori et al, 2018). In this connection, Blank (2000) identified carelessness, negligence and lack of fire safety awareness as some of the major causes of fire outbreaks.

Without any doubt, fire disaster is one of the unfortunate calamities with intense negative consequences on the library, its infrastructure, resources and services. That is why Yusuf and Gbaje (2014) lamented that the attendant destruction of such a calamity always overwhelms the capability of the affected library not only to response but also to cope with the daunting task of an after-disaster reactions. It is a matter of great concern that fire disaster is unforeseen while its real cause is often not easily and immediately known.

**Statement of the Problem**

In recent years, three famous academic institutions in northern Nigeria experienced a devastating fire disaster in their respective libraries, resulting to the destruction of valuable items and resources, sudden disruption of normal services and operation with attendant negative effects to the libraries and their users. The libraries affected include the President Kennedy Library at the Congo Campus of Ahmadu Bello University, Zaria; Adamu Augie College of Education Library, Argungu in Kebbi State; and the University of Jos Library. The intensity of the University of Jos Library disaster in particular did not only attract the attention of the Government and the general public but also generate wide reactions and concerns, especially from renown Library and Information Science professionals in Nigeria. For instance, in his immediate reaction to the fire incidence, Popoola (2016) lamented that the disturbing images from the scene of the inferno as shown on the Nigerian Television Authority (NTA) Network makes one to wonder what is left of the decades of intellectual endeavours in the institution and brought many questions to mind”. Likewise, Aiyedogbon (2016) tersely exclaimed that the unfortunate incidence in the University
Library is not only sad but regrettable. More seriously, Opara (2016) who actually saw the ruins and ashes of the Library described the inferno as a disaster of monumental proportion which calls for the assistance of the Federal Government, organisations and individuals in rebuilding the ruined library.

However, despite the monumental destruction and wide public outcry on the unfortunate situation, those comments and expressions are merely face-value concerns. It is a matter of great concern that there is no any empirical evidence, to the knowledge of these researchers, to prove the real causes and consequences of the fire disaster in the three academic libraries concerned. This unexplained situation has made this research most imperative.

**Objectives of the Study**

The main objective of this study is to determine the actual causes and consequences of fire disaster that affected three academic libraries in northern Nigeria. Specifically, the research has the following objectives:

1. To find out the causes of fire disaster in three selected academic libraries in northern Nigeria.
2. To ascertain the consequences of the fire disaster in terms of loss, damage and recovery in the academic libraries.
3. To examine the existing fire prevention and management practices in the academic libraries.
4. To identify the challenges hindering effective fire disaster prevention and management in the academic libraries.

**Review of Related Literature**

A number of studies relating to disaster management in Nigerian academic libraries exist. For instance, in his study on disaster management in academic libraries in Plateau State, Davou (2014) identified the types of disasters that affected the libraries to include pests, fire, roof leakage and data alteration. These disasters can cause great damages to the library collections, building and personnel. The study also showed that not all libraries were prepared for disaster management (with only a few accepted to have a written disaster management plan). Furthermore, the study identified problems militating against disaster management in the libraries as lack of fire alarms, poor training of staff on disaster management, lack of budgetary allocation for disaster management and lack of fire fighters. Ugwuanyi, Ugwu and Ezema (2015) also carried out a study on Managing Disasters in University Libraries in South East Nigeria: Preventive, Technological and Coping Measures. They found out that no significant technological and coping measures were applied in managing disasters in the university libraries.

Echezona, Ugwu and Ozioko (2012) examined “Disaster Management in University Libraries: Perceptions, Problems and Strategies in University Libraries in South Eastern Nigeria. The study revealed that some librarians were aware of disaster management while others have low level knowledge of it. However, the respondents were of the opinion that university libraries in South Eastern Nigeria should prepare for disaster management, as lack of disaster preparedness and recovery plans were identified as some of the critical problems. The study enumerated a number of strategies that could be put in place to ensure effective disaster management, which include but not limited to training on firefighting equipment and raising awareness of libraries on the need to protect documents from disaster. Similarly, Uwakwe (2019) conducted a study on disaster
awareness and preparedness in academic libraries with particular reference to Michael Okpara University of Agriculture Library, Umudike. Among the findings of the study revealed numerous types of disaster in the Library, such as fire outbreak, power failure, vandalism, theft, roof leakage, flood and biological agents. The study also observed that the Library has disaster preparedness plan, though not effectively implemented and monitored, even though the library has no training programme on disaster awareness and preparedness; no disaster response and recovery team; with fire extinguisher, regular fumigation of the library and use of security procedures, monitoring and repair of leaking roof as well as regular checking of electrical fittings as some of the preventive measures available.

Kolawole et al (2015) explored the disaster management practices in five public libraries in South West Nigeria. The study revealed that all the libraries had put in place adequate measures to curtail disaster occurrences. In addition, majority of the staff were fully aware of the disaster preparedness measures and have knowledge on how to use available disaster equipment. Nonetheless, some of the challenges encountered by the libraries were non-functional firefighting equipment, inadequate facilities, technophobia, financial incapability and lack of interest and carefree attitude of the library personnel.

The work of Yusuf and Gbaje (2014) which focused on disaster preparedness in selected special libraries in Kaduna State discovered that the two most common types of disaster in the special libraries were dust and fire. The study therefore recommended among others adequate training for the library staff on how to use fire extinguishers/ hydrants in case of any fire outbreak. In addition, libraries should organize an in-house training and also send their staff for training so as to enable them acquire the necessary knowledge and skills on library preservation, conservation and disaster management.

From the foregoing literature review, it is evident that the existing studies generally focused on the theory, principles and practices of disaster management in Nigerian libraries. There has not been a single research conducted on the reality of fire disaster, its causes and aftermath affecting Nigerian libraries. It is this obvious gap in knowledge that this research intends to fill by specifically investigating the fire disaster incidence as it affects the three academic libraries in northern Nigeria.

Research Methodology
This research adopted a qualitative research method, using descriptive survey research design. A structured questionnaire and interview were used as data collection instruments. In addition, documentary evidences, especially the reports of the investigation committees on the fire disaster set up by the respective institutions, were carefully scrutinized and relevant information obtained. Also, pictures depicting the real scenes of the inferno were observed; and they provided valuable information on the extent of the destruction caused by the disaster. The population of the study comprised three academic libraries, namely President Kennedy Library, Ahmadu Bello University, Zaria; Adamu Augie College of Education Library, Argungu, Kebbi State and University of Jos Library. The selected libraries were purposely chosen because they all experienced a fire outbreak with ravaging consequences. The interview, on the other hand, was conducted using a predesigned questionnaire. Both the interview and the questionnaire were administered to the heads of the libraries concerned.

Research Findings
Table 1: Demographic Data and Fire Incidence in the Libraries Studied
It is evident from Table 1 that the President Kennedy Library, A.B.U, Zaria was established since 1964 and has a seating capacity of over 600 users with about 13,768 volumes of books, periodicals and audio visual materials. On Monday, 3rd November, 2008, part of this magnificent Library was suddenly razed down by fire which started in the morning and lasted up to afternoon before it was subsequently brought under control. It was gathered that the fire was caused by a welding spark during a general renovation work carried out by a contractor.

Seven months later, on Sunday, 7th June, 2009, another fire outbreak also engulfed the entire library building of the Adamu Augie College of Education, Argungu in Kebbi State at noon. The fire incidence lasted for about two hours and it was suspected to be caused by an electrical fault. The Library was established in 1995 and has a seating capacity of about 150 users with 14,355 volumes of information resources.

Similarly, on Monday, 8th October, 2016, the University of Jos Library also witnessed a more devastating inferno which started in the evening and lasted for about eight hours. The fire was also suspected to be caused by an electrical fault. The Library is one of the second generation university libraries in Nigeria established in 1975; and it has the capacity of 1500 users and over 90,336 volumes of materials at the time of the incidence.

Table 2: Items/Equipment Lost or Damaged

<table>
<thead>
<tr>
<th>Building &amp; Other Civil Works</th>
<th>PK Library</th>
<th>AACE Library</th>
<th>UniJos Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Building</td>
<td>X</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Air Conditioners</td>
<td>X</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Ceiling Fans</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Doors</td>
<td>√</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>Windows</td>
<td>√</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>Roof/Ceiling</td>
<td>√</td>
<td>x</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Library Resources</th>
<th>PK Library</th>
<th>AACE Library</th>
<th>UniJos Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books &amp; Periodicals</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Cataloguing &amp; Classification Tools</td>
<td>X</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>
Table 2 above shows the extent of loss and damage to the library building, resources, furniture and equipment caused by the fire incidences in the three academic libraries. From the data available, President Kennedy Library suffered a loss of the roof, ceiling fans, doors, windows, books, periodicals, reading tables, reading chairs, refrigerators and computer systems which were all estimated to cost about ₦35,750,000.00. In the case of Adamu Augie College of Education Library, the fire incidence destroyed the library building; containing books and periodicals, air conditioners, ceiling fans, cataloguing and classification tools, library records, book shelves, periodical display racks, reading tables and chairs, catalogue cabinets, binding machines and consumables, computers and other ICT equipment, office furniture and equipment which were all estimated at ₦60,888,042.03. At the University of Jos Library, the inferno destroyed the library building together with valuable information resources, ICT equipment and facilities, office equipment and furniture which were estimated at ₦3,570,073,103.11.

Table 3: Items/Equipment Recovered

<table>
<thead>
<tr>
<th></th>
<th>PK Library</th>
<th>AACE Library</th>
<th>UniJos Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>10,324</td>
<td>873</td>
<td>0</td>
</tr>
<tr>
<td>Periodicals</td>
<td>0</td>
<td>17</td>
<td>0</td>
</tr>
</tbody>
</table>
Despite the unprecedented loss caused by the fire incidences in the three academic libraries, some library resources and equipment were recovered as evident from Table 3 above. In President Kennedy Library, about 10,324 volumes of books, 115 chairs and 29 tables were recovered. Also, 873 books, 17 periodicals, 11 chairs and 3 catalogue cabinets were rescued in Adamu Augie College of Education Library. However, not a single item was recovered in the case of the University of Jos Library.

In determining the existing fire prevention and management practices in the libraries, a list of firefighting equipment/facilities were provided for selection as shown in Table 4 below.

**Table 4: Fire Fighting Equipment/Facilities Available in the Libraries**

<table>
<thead>
<tr>
<th>Item</th>
<th>PK Library</th>
<th>AACE Library</th>
<th>Unijos Library</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fire Preventing &amp; Fighting Equipment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire extinguisher</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Fire/sand bucket</td>
<td>X</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Fire hydrant (Water hose)</td>
<td>X</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td>Fire blanket</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Fire alarm system</td>
<td>X</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td>Smoke detectors</td>
<td>X</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td>Fire equipment signage</td>
<td>X</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td>First aid kits</td>
<td>X</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td>Emergency exit doors</td>
<td>X</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td>Muster points</td>
<td>X</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td>Electric circuit breaker</td>
<td>X</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td><strong>Fire Fighting Vehicle/Station</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available within the institution</td>
<td>X</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td>Available outside the institution</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>

KEY: PK Library = President Kennedy Library; AACE Library = Adamu Augie College of Education Library; Unijos Library = University of Jos Library

√ = Yes; x = No

Table 4 shows that President Kennedy Library was equipped with fire extinguishers and a fire fighting vehicle which was stationed and managed outside the institution. The Adamu Augie College of Education Library provided fire extinguishers, sand buckets and a fire fighting vehicle but outside the institution. On the other hand, the University of Jos Library had various fire prevention and fighting equipment, such as fire extinguishers, sand buckets, water hose, fire alarm system, smoke detectors, fire signage, emergency exit doors, muster points, electric circuit breakers as well as firefighting vehicle stationed within the institution.
Table 5: Factors Hindering Effective Fire Disaster Management in the Libraries

| Inadequate fire detection & fighting equipment | PK Library | AACE Library | UniJos Library |
| Lack of staff training and patrons’ sensitization | ✓ | ✓ | ✓ |
| Inadequate signage | ✓ | ✓ | ✓ |
| Inadequate evening/night shift security personnel | ✓ | ✓ | ✓ |
| Inadequate exit doors | ✓ | ✓ | ✓ |

KEY: PK Library = President Kennedy Library; AACE Library = Adamu Augie College of Education Library; UniJos Library = University of Jos Library
✓ = Yes; x = No

Table 5 above clearly shows that all the three academic libraries agreed that inadequate fire detection and fighting equipment, lack of staff training and patrons’ sensitization, inadequate signage, inadequate evening/night shift security personnel and inadequate exit/emergency doors were the major factors hindering effective fire disaster management in their respective libraries.

Discussion of Findings

Based on the findings of the study, it is evident that the fire disaster in the three academic libraries was caused by welding spark in the case of President Kennedy Library and electrical fault in both the College of Education, Argungu and University of Jos libraries. Notwithstanding the causes of the inferno, the consequences in all the libraries are greatly alarming. It is quite clear that the extent of destruction in President Kennedy Library is less compared to Adamu Augie College of Education and University of Jos libraries. This could be attributed to the fact that the fire in President Kennedy Library occurred during the Library’s official working hours coupled with the timely intervention of the staff on duty. On the other hand, the fire disaster in both Adamu Augie College of Education and University of Jos libraries happened after the libraries' official closing hours; hence access to the inner side of the libraries became difficult for the response team. This could be a major factor for the serious destruction despite the immediate response and availability of some firefighting and detection equipment in the two libraries. Furthermore, although Adamu Augie College of Education Library has some facilities like fire extinguishers and sand buckets, it solely rely on firefighting vehicle and services from outside the institution; thus hindering timely response and which caused a wanton destruction. However, University of Jos Library is equipped with a number of fire prevention and firefighting equipment/devices, such as fire extinguishers, sand buckets, water hose, fire alarm system, smoke detectors, fire signage, emergency exit doors, muster points, electric circuit breakers as well as fire fighting vehicle which is stationed and controlled in the institution. Despite this preparedness, the havoc caused by the fire is unprecedented in the history of Nigerian libraries.

In general, the causes and consequences of the fire disaster in the three academic libraries are attributable to multifarious factors. Prominent among them is lack of written disaster management policy/plan. This corroborates Davou's (2014) previous study which showed that most Nigerian academic libraries were ill-prepared for disaster management and that only a few of them have any written disaster management plan.

Secondly, even though University of Jos Library appears to be more equipped and strategically prepared for fire disaster management compared to the other two academic libraries, it is obvious that all the three libraries lack any disaster response and recovery team as well as adequate security personnel directly controlled by the libraries. This finding is in line with the revelation of Uwakwe's (2019) study on Michael Okpara University of Agriculture, Umudike that showed...
absence of disaster response and recovery team as well as effective monitoring and regular checking of electrical fittings.

Thirdly, despite the provision of some fire detection and firefighting equipment/facilities in the academic libraries, it is noteworthy that both staff and users of the libraries do not have knowledge about the existence and locations of these facilities and how to use them. This confirms the assertion of Echezona, Ugwuona and Ozioko (2012) that some Nigerian libraries were not aware or have little knowledge of disaster management facilities. Furthermore, most of the facilities provided in the three academic libraries are not only inadequate but also obsolete and malfunctioning. These facts are in consonance with the discovery of Ugwuanyi, Ugwu and Ezema (2015) in their study on Nigerian university libraries which indicated that no significant technological and coping measures were applied in managing disasters. It also conforms with the Kolawole's (2015) discovery concerning the public libraries in the south-west Nigeria viz: non-functional firefighting equipment, inadequate facilities, technophobia as well as lack of interest and nonchalant attitude of the library personnel.

Conclusion

In line with the objectives of the study, it is established that electrical fault and welding spark are the major causes of the fire outbreak in the academic libraries studied. Furthermore, fire disaster tends to be more potent and devastating when it occurs after closing hours of the library and without adequate security or fire service personnel available to ensure timely intervention before the fire escalates beyond control. It is apparent that modern fire prevention and detection equipment/facilities are grossly inadequate in the libraries while their staff are not trained on how to use these facilities in emergency situation. In addition, library patrons are also less aware about the existence, locations and use of firefighting equipment/facilities in the libraries. It is obvious that the experience of the three academic libraries studied have considerable implications for disaster management policies, strategies and practices in Nigeria academic libraries.

Recommendations

In the light of the findings of the study, the following recommendations are proffered with a view to ensuring a significant improvement on the current situation.

1. It is necessary for the academic libraries to have written fire disaster management policy and also adopt strategic measures and practices in readiness for any eventuality.
2. The cause of fire incidence (welding spark) in President Kennedy Library calls for extreme caution by all academic libraries when carrying out any renovation/rehabilitation work; be it electrical, plumbing, carpentry, or masonry. Any of these could pose a threat and also cause imminent destruction without precautionary measures in the execution.
3. Modern fire prevention and fighting equipment and vehicle should be provided, so as to ensure timely response to any slightest sign of disaster to affect the libraries.
4. The libraries should regularly conduct training for staff and sensitization for the patrons with a view to ensuring effective use of the fire prevention and fighting equipment provided as well as other safety measures introduced from time to time.
5. At strategic locations of the libraries, there should be signage for firefighting equipment and exit/emergency doors for easy location and use whenever the need arises.
6. The institutions should always deploy enough security and fire service personnel to guard the libraries, ensure proper vigilance and speedy action in any emergency situation.
References


