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An Overview of the Facilities Manager's Role in Disaster Recovery Planning and Management in the 21st Century

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Abstract

The environment provides support and shelter for all human activities. This suggests that at each point in time the built environment ought to be functional to sustain all activities that take place on it. Unfortunately, disasters occur unannounced with the result that those who are not prepared for such are cut off guard. Under such situations, the fate of people, businesses and government are thrown into jeopardy. This study examines the role of the Facilities Manager in disaster recovery planning and management. No functional organizational management would like to be disrupted but this depends on the management's awareness and preparedness to potential disasters and its ability to develop a plan that can reduce it to the barest minimum. For any disruptions that might arise in the case of eventual occurrence of disasters, plans ought to be functional and able to recover operations quickly and effectively. The study observes that in developing countries such as Nigeria, disaster recovery planning and management are seriously overlooked with the result that insurgency, terrorist attacks, floods, earthquakes and wildfires to mention few have taken a toll on the environment with no pre-arrangements or provisions made to protect workers, clients, properties or even the business itself. The study established that the facilities manager has a crucial role to play in the pre and post disaster periods and by training and experience, the responsibility of recovering all the support service that an affected organization needs to resume operations lies on his shoulders.

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Background to the Study

Disasters happen in the built environment which provides either a platform or shelter to humans, plants and animals. Lately, disasters have become regular features of our news headlines. In the 21st century disasters are becoming more frequent, growing more severe and affecting more people than ever before. The reasons vary but include climate change, population growth and shifting habitation patterns. According to a statement released from the centre for research on the Epidemiology of Disasters and the United Nations in 2009, the average number of disasters reported each year increased more than 60 percent from 2003 to 2005, compared with 1996 to 1998. This indicates that disasters can occur at any time and any place without any form of warning. Buildings are usually badly hit during disasters and this is the heart of organization where their core business takes place. This implies that organizations should look at disasters as one of the major risks that they need to contend with and thus take disaster recovery planning and management seriously at managerial level (Darling, 1994). Risk and uncertainties befall humans and also organizations set up by them. Sometimes these risk accumulate and when unattended to degenerate to disaster (Davies and Walters, 1998). According to Kulathuga (2012), when these risks come in contact with vulnerable populations and or built environment structures they give rise to disasters. Organizational negligence of risk factors in most cases degenerated to disaster. The situation is worse off when the disaster affects the organization's main income generating activities. Developing the tools, processes and best practices to manage disasters more effectively is becoming an increasingly urgent global priority. The need for disaster recovery planning and management should not be overlooked by the Facilities Manager who is in charge of managing the facilities. This paper presents an overview the role of the Facilities Manager in disaster recovery planning and management.

Review of Related Literature

The word disaster has different meanings depending on the context. According to Webster dictionary, it is a sudden calamitous event bringing great damage, loss, or destruction, broadly; a sudden or great misfortune or failure. Wikipedia.org sees it as a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental loss and impacts, which exceeds the ability of the affected community or society to cope using its own resources. Business dictionary.com sees it as a calamitous, distressing, or ruinous effects of a disastrous event (such as drought, flood, fire, hurricane, war) of such scale that they disrupt (or threaten to disrupt) critical functions of an organization, society or system, for a period long enough to significantly harm it or cause its failure. It is the consequences of a disastrous event and the inability of its victims to cope with them that constitute a disaster, not the event itself. The US disaster relief specialist Cuny (1944-1995) defines disaster as a situation resulting from an environmental phenomenon or armed conflict that produces stress, personal injury, physical damage, and economic disruption of great magnitude. The definition adopted by the world Health Organization (WHO) terms disaster as 'the result of a vast ecological breakdown in the relations between man and his environment, a serious and sudden disruption in such a scale that the stricken community needs extraordinary

efforts to cope with it, often with outside help or international aid'. According to the US Federal Emergency Management Agency (FEMA) it sees disaster as an occurrence of a natural catastrophe, technological accident, or human caused event that has resulted in severe property damage, deaths and/or multiple injuries. The Centre for Research on the Epidemiology of Disasters (CRED) defines disaster as a situation or event that overwhelms local capacity, necessitating a request to a national or international level for external assistance. The international federation of Red Cross (IFRC 2009) adopts the same definition as the Centre for Research on Epidemiology of Disasters CRED which defines disaster as a situation or event which overwhelms local capacity thus necessitating a request to national or international level for external assistance on unforeseen and often sudden event that causes great damage and human suffering.

IFRC (2009) clearly states that for disaster to be recorded in the CRED database, it must meet some basic criteria, such as; up to ten or more people are reported dead, 100 or more people are injured, a state of emergency is declared and international assistance is sort (warren, 2010).

It is observed that all the definitions of disaster emphasized the need for external assistance. It is a situation characterized by crisis and huge damage that is far beyond the capability of the immediate environment to cope with. Disasters cannot be totally prevented, even in developed societies with sophisticated technology and scientific advancements; they are still struck with disasters despite their predictions. In the face of uncertainty, we can to a reasonable extent reduce the impact of damage but by no means reduce the extent of the damage caused by disaster.

Types of disaster

There are two types of disasters - Natural disaster and Man-made disaster. Natural disasters are induced by natural occurrences in our environment and are usually difficult to prevent. Such natural disaster includes, earthquakes, floods, Mudslides, hurricanes, Tsunamis etc. The IFRC and Red Crescent Societies (2014) report that about two billion people have been affected by different forms of disasters between 2004.- 2014. Studies have shown that disasters are occurring at an increased frequency in countries around the world. (Pathirage, 2016; Disaster Management Centre of Sri Lanka, 2015; Asian Disaster Reduction Centre, 2014).

Man Made disasters are triggered by human activities and actions. It involves spillage of hazardous liquids and substances. Fire out break (infernos) infrastructure collapse, terrorism and insurgency etc. Disaster management centre Sri Lanka (2015) reports that more than 64, 000 lives were lost to disaster which also shook the economy adversely.

In Nigeria the National Bureau of Statistics (NBS 2018) reports that millions of lives and properties worth billions of naira have been lost to terrorism and insurgency. To foretell man-made disasters, surveillance and effective mitigation plans are needed to curb or reduce to the barest minimum any losses that might accrue from mad made disasters.

Humans are prone to suffer from either natural or man-made disasters at any time. This leaves organizations with no options but to make disaster recovery planning a must have.

Plate 1: Tornado

Plate 2: Wild fire

Plate 3: Tsunami

Plate 4: Flood

Plate 5: Heat wave

Plate 6: Hurricane

Plate 7: Landslide

Plate 8: Winter storm

Plate 9: Terrorism

Plate 10: Thunderstorm

Plate 11: Fire outbreak

Source: https://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies.html-Types of Disaster

Disaster Recovery (DR)

The next course of action to be taken after a disaster occurs is Disaster Recovery (DR). This refers to the processes an organization undertakes to recover their software and hardware in order to resume normal business activities and functions. Disaster recovery involves a set of policies, tools and procedures to enable the recovery or continuation of vital technology, infrastructure and systems following a natural or human- induced disaster.

Disaster Recovery Plan (RP)

A disaster recovery plan is a documented process or set of procedures to execute an organization's disaster recovery processes to recover and protect a business IT infrastructure inthe event of a disaster. It is a comprehensive statement of consistent actions to be taken before, during and after a disaster. Disaster recovery plans (DRP) is put in place to cover up where there is a gap as a result of the loss of either software or hardware data generated by disaster. Apart from loss of data to the organization, there could be loss of personnel to disaster; it could be crucial staff holding key positions in the organization who have important information concerning the organization in their custody.

A disaster recovery plan is a documented, structural approach that describes how an organization can quickly resume work after an unplanned incident. ADRP is an essential part of a business continuity plan. It is applied to the aspect of an organization that depend on a functioning IT infrastructure.

Disaster recovery plans should be all encompassing, accommodating all aspects of organizations activities. Staff should be intimated on specific actions to take at each point in time and especially when disaster strikes. There is need for adaptability of plan to suit organizational requirements. New software and hardware should be updated as they come up into the plan.

Disaster Recovery Plans help to reduce the period of business interruption and bring the organization back quickly to the state it was before disaster struck (Roberts and Libuser,

1993) unfortunately, DRP are most often postponed because of the assumed unlikelihood of occurrence (Varcoe, 1998). Organizations are worse hit if the disaster affects the main income generating activities of the organization and so an effective DRP should bring the organization's business alive in the shortest possible time after the disaster (Davis and Walters, 1998).

Formulating a Disaster Recovery Plan

In formulating a disaster recovery plan, there is need to assess likely risks to facilities, identification of crucial systems and functional parts and making provisions that will minimize interruptions to those crucial systems and functional parts in an emergency disaster.

The organizations maintenance technicians undergo constant training and understand their responsibilities as it concerns preparing the organization's facilities before, during and after an emergency disaster. There is the likelihood that confusion will set in during a disaster and this will not be a time members of staff will be expected to be addressed or intimated on what to do. We live in a world of "change", changing values perceptions technologies, facilities etc, facilities managers should review disaster plans annually or when there are changes in key positions in the organization. It is worthy to note that the quantum of damage on an organization's facility depends to a large extend on the severity of the disaster but the ease of recovery will depend on the "quality" of the maintenance and engineering staff.

Disaster Prevention

In medicine prevention is the watch word as it is better than providing a cure. Likewise, prevention measures can eliminate or even reduce the impact of unavoidable disaster. Some of these measures include but are not limited to observing building codes, land use zoning and management, building use reregulation and safety codes, preventive healthcare, public enlightenment (Warfield, 2004). The whole idea of setting a disaster prevention strategy is to reduce losses to the barest minimum in the event of a disaster occurrence. Coburn et al (1994) presents two categories of disaster prevention strategies, they are the primary and secondary prevention strategies. While the primary prevention strategy aims at reducing the risk of death and injury to the populace, secondary prevention strategy centers on reducing damage and economic losses inflicted on public section infrastructure and the effect on the locality as a whole. Nateghi (2000) is comfortable with two classifications of disaster prevention -

(i) Preparedness measures provide early warning, establish contingency plans and develop capacity for emergency response.
(ii) Prevention/mitigation measures which reduces vulnerability to risks of disaster on a long term and permanent basis.

For effective disaster preparedness and prevention measures there is need to share knowledge, lessons and good practices within staff in the organization (Pathirage, 2016). A comprehensive disaster recovery plan is not developed by one person; it requires the

contribution of different personnel from key Departments in the organization. The facilities manager is in charge of all facilities management functions and as such undertakes the responsibility of recovering the supporting services that will enable the organization to perform its business functions effectively again (Warren, 2010)

Facilities management scope as stated by RICS (2005) includes thirteen activity areas such as business management, real estate management, project management, financial works, health and safety, procurement activities, operations, business organization, managing services, managing people and work place related activities to protect the business, the processes and procedures and to lodge these processes within the wider culture of the business.

The facilities manager oversees services such as maintenance, security, parking, catering, equipment procurement and supplies as well as supervising multi-disciplinary teams of staff. The facilities manager ensures that the buildings and their services meet the needs of the people that work in them. Looking critically at the scope of the facilities managers duties, it is very clear that he has an indispensable role to play in disaster recovery planning and management.

No person can predict an emergency disaster, but people can get prepared for emergency disaster. Disaster can take any form and can affect a facility in different ways. It could be in the form of system failures in building which is manmade disaster or as a result of natural disaster. In a world of all possibilities, it would be possible for the facilities manager to have a workable plan ready for any possibility that arises but in the real world situation it is virtually impossible to have a plan for every type of disaster. Varcoe, 1998; Davies and Walters, 1998 suggests that facilities managers ought to start a disaster recovery plan with hazard analysis. Vazquez (2005) argues that in assessing the possibility of disaster risks to the building, the contribution of personnel from key Departments in the organization is crucial; doing this would present a broad picture of the facility and likely risks that it might be prone to. It is the sole responsibility of the facilities manager to coordinate these discussions and have them executed. Business impact analysis is a means of systematically assessing the potential impacts resulting from various events or incidents that might cause existing facilities or systems to be unavailable (Savage, 2002). This helps the organization to really understand the gravity of loss suffered.

The role of the FM in preparing the business impact analysis is important and should be alert to the key issues required to evaluate and implement plans that meet the numerous demands and objectives of their core organizational business. If plans for what would happen after a disaster are put in place, it would improve the organization's chances of quick recovery and efficient business continuity. Vazquez (2005) suggests that the facilities manager and other key personnel should consider what would be needed in the immediate situation and in the short term after the disaster occurrence.

The Role of the Facilities Manager in Preparing for Disaster

Emergency preparedness is a part of the facilities manager's role and this includes basic safety and security threats, acts of terrorism, natural disasters, workplace violence, chemical/biological incidents, pandemic crises, data protection etc. (IFMA, 2007). Facilities manager should evaluate facilities for disaster assessment by touring the facility, reviewing and re-evaluating architectural or infrastructure impairments and limitations. This helps the facilities manager in outlining evacuation plans.

Communication is key during disaster, and in order to communicate with people critical to the organization, contact information should be stored and concern parties should be informed and trained on what is expected of them. Crucial contact persons might include key staff of the organization, customers, suppliers and insurance agents. Davis and Walters (1998) opines that an organization can become disaster prepared, if they adopt a range of strategies which includes but not limited to providing good feedback on previous incidents, ensuring that life safety and security equipment are in good working condition, inculcating safety culture norms and beliefs on the importance of safety, training and educating staff to ensure constant awareness. The Facilities Manager rounds it off by ensuring that there is effective coordination of all aspects of the facility.

It is worthy to note that there is no one encompassing strategy with regards to planning for disaster recovery. The type of disaster, its frequency, severity, facility size and location, types of equipment and processes in use, expertise of maintenance staff and the estimated disaster recovery budget all have crucial roles to play in putting in place a functional and effective disaster- recovery plan.

Pathirage (2016) states that the budget is usually a factor that decides the standard of a disaster-recovery plan. But, it is safer to have a plan that does not cover all the aspects of a facility than not having a plan in place; this can cost the organization everything. Facilities management ought to play crucial role when it comes to business continuity because it manages the second largest and most consequential business assets after Information Technology (IT) on which a day to day business operation rely.

Unfortunately, many facilities management (FM) Departments are often excluded from the planning process, probably because there is a focus on IT or because recovery strategies lean toward alternative site configurations with the assumption that a facility affected by disaster is already lost completely. But in the actual life situations, complete loss of a facility almost never occurs.

It will be short sightedness on the part of facilities manager to attach little value to planning for potential disasters with the assumption that responses and recovery are both part of their existing duties and so donot require planning. A good facilities manager is adapt at responding to day-to-day crises, this makes them invaluable during any disruption because they also know and are responsible for critical support functions. The facilities manager has the contact of plumbers, electricians, restoration companies and similar skilled trades and suppliers whose duties and quick response helps to restore facilities damage.

If facilities management is integrated with other aspects of disaster recovery and business continuity, disasters may be more easily resolved.

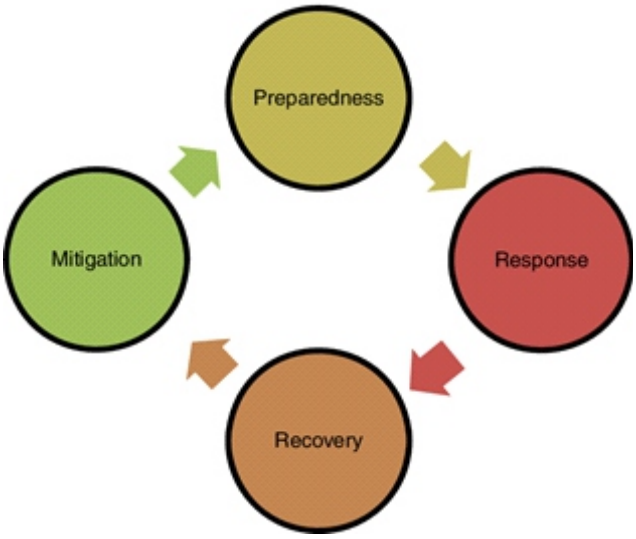
Disaster Management

Effective disaster management or disaster response can be defined as the provision of technology, tools and practices that enable disaster response organisations to systematically manage information from multiple sources and collaborate effectively to assist survivors, mitigate damage and help communities rebuild. Before organisations can improve their disaster response capabilities with new technology and training, they must have a clear idea of the problems they are trying to solve and have processes and practices in place to address the problem. Ongoing challenges in disaster management, such as the need to normalize data so that critical information can be quickly communicated, understood and acted upon. This reinforces the need for clarity and structure.

Another challenge is the sharing of information across organisations hampered by a lack of interoperability. In a disaster management situation, information is widely distributed and owned by different organisations, critical data is maintained in disparate systems that often do not interoperate well. Yet another challenge is the need to automate manual records for disaster response and humanitarian assistance organisations. True interoperability is about connecting people, data and diverse processes and organisations, which requires not only flexible technology and accepted standard, but also bureaucratic and regulatory barriers. In many countries, the people and organisations that work in disaster management also have responsibilities related to national security. The processes and technology solutions they use for critical infrastructure protection can also be adapted for disaster management. These responders increasingly rely on information and communication technology (ICT) systems that can streamline knowledge sharing, situational analysis and optimize collaboration among organisations. ICT can help reduce the loss of live and families and alleviate human suffering by providing first responders with the tools for effective communication and collaboration to overcome challenges posed by distance, diverse languages, cultural differences, geographical barriers and damaged infrastructure. Increasingly, disaster management organisations look for applications that are industry- proven, robust. cost – effective, interoperable and able to operate with limited or intermittent connectivity and various levels of network capacity.

Change occurs rapidly in disaster management. Mandatory policies and procedures frequently require the modification of existing systems. The ability to rapidly adapt applications to keep pace with evolving situations benefits response organizations, and the people who depend on them, while preserving their IT investments. Moreover, technology can be a powerful force that opens exciting opportunities for organizations to better achieve their missions and accelerate their impact.

Fig. 1: Four stages of disaster management cycle



Conclusion

It has been established that disasters are not always predictable but that their effect on organizational business, employees and customers can be minimized with a functional disaster recovery plan.

The frequency and extent of disasters are increasing on a global scale. The facilities manager is the key person in an organization and is in charge of all property management functions. The facilities manager is charged with the responsibility of recovering the support services that will enable the organization resume its business functions again within the shortest possible time after a disaster.

Recommendations

a) Organizations should see a disaster recovery plan as a pre-requisite and not something that comes up as a result of a loss of data or equipment following a disaster.
b) There is need for facilities managers to be prepared for the adverse effects of disasters on their facility. In most organizations at present the involvement of the facilities manager is minimal.
c) The facilities manager should play the vital role of coordinating facility issues for all stages, from disaster mitigation and preparedness to post disaster recovery management stage.

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