Disaster Preparedness and Recovery for Museums: A Business Recovery Model

by

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Abstract

Museums are critical to the cultural value of our society. By preserving and displaying artistic, scientific and historical objects, museums serve the public through education. Comprehensive disaster planning is essential to the survival of cultural institutions. The purpose of this research is to (1) describe the ways that any museum can prepare for and recover from a disaster and (2) develop a model disaster plan emphasizing business recovery, (3) gauge the opinions of Texas museum professionals on the current state of museum disaster planning and (4) using the model and survey results, make recommendations for more effective planning. A survey was sent to museum directors and curators in Texas seeking their knowledge of the state of disaster planning today. The results concluded that museum professionals believe comprehensive planning is not a priority and museum disaster plans need more emphasis on communication, team building, insurance, collection restoration and business recovery.

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Chapter 1

Introduction

The Baghdad Museum contained one of the largest collections of Mesopotamian and Babylonian art in the world. It was a collection that few outside of Iraq had ever seen. In March of 2003 the United States military began to invade Iraq. During the chaotic weeks that followed, Iraq saw its military and police force dissolve. The Baghdad Museum was left unprotected. The U.S. Army lacked the foresight and the manpower to protect the building. Armed looters ransacked the museum, destroying ancient works of art. The collection is permanently damaged- preventing future visitors from seeing the art the museum once had (Joffe 2004).

The Baghdad Museum is the most spectacular example of a museum disaster to occur in recent times. Museums are not immune to destruction, whether caused by war or natural disaster. The museum community must recognize the importance of disaster planning. Although a disaster such as the one that the Baghdad Museum experienced is unlikely in the United States, there are many ways that a museum and its collection can be damaged or destroyed. Proper disaster planning emphasizing both preparedness and recovery is needed for any museum regardless of size.

Research Purpose

Museums play an important role in the education and enlightenment of our society. After Hurricane Rita, it became evident that Texas museums are vulnerable to natural disasters. Texas' museums must take measures to protect themselves from disaster to protect our cultural heritage. The purpose of this research is to (1) describe the ways that any museum can prepare for and recover from a disaster and (2) develop a model disaster

plan emphasizing business recovery, (3) gauge the opinions of Texas museum professionals on the current state of museum disaster planning and (4) using the model and survey results, make recommendations for more effective museum disaster planning. In this model there are seven components which make up an ideal disaster plan: role of management, threat assessment, personnel organization, communication, inventory and insurance, collection restoration and business recovery.   The following is a brief introduction to the components.

Role of Management

Disaster planning is not a high priority for museums. Museum management textbooks have neglected disaster planning as a necessary component of running an institution[1]. Recent literature demonstrates a need for museums to create a comprehensive disaster plan (Miano 2003, 30, Dorge and Jones 1999, 27). Management must be actively involved with the planning and execution of the plan. Smaller institutions do not prioritize disaster planning due to the expense and time involved. It is not sufficient for museums only to plan for emergencies, but they must have a continuity plan that facilitates a quick recovery for the business aspect of the institution (Tremain 2004, 2, Koehler 2003, 55, Davis 2003, 18).

Threat Assessments

Threat assessments occur when museums make a prioritized determination of what the most likely threats are to the infrastructure and collection (Candee and Casagrande 1993, Upton and Pearson 1978).   Threats are organized into categories and then ordered by likelihood. For example, a planner might list the potential natural and man-made disasters for their region and order them on a scale of "very likely" to "very unlikely" (Candee and Casagrande 1993, Appendix A). When identifying risks it is essential to understand the

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[1] See Fopp 1997, Malaro 1994, Moore 1997, Lord and Lord 1997- all basic museum studies textbooks

structural integrity of the building since older buildings are likely be more vulnerable (Nelson 1999, 73-74). In addition, there should be a separate threat assessment of the museum collection (Lord and Lord 1997, 151) to determine the placement and security of valuable items. Museum personnel must also recognize everyday threats, such as pest damage, although it may not constitute an emergency (Montana-Ryan 1995, 1).

Personnel Organization

In the event of a disaster the museum staff should be organized to execute the disaster recovery plan. First, an emergency preparedness manager must be appointed who is responsible for writing the plan and its implementation (Dorge and Jones 1999, 47, Upton and Pearson 1978, 15). Staff should be organized into teams to assist the emergency preparedness manager and the museum director during a crisis (Koehler 2003). Furthermore, the effectiveness of these teams requires regular preparedness training (Candee and Casagrande 1993, 13). Training may be based on FEMA (Federal Emergency Management Administration) training models (Watkins 2000, 171).

Communication

Several types of communication apply to an emergency situation. The first kind of communication is among personnel (Dorge and Jones 1999). A phone tree may be established to ensure quick notification of a disaster (Tremain 2004). A museum must also be able to communicate with emergency responders. In large scale disasters, museums may not take high priority among emergency personnel. Managers must familiarize themselves with the disaster plan of their city, and maintain rapport with first responders to get more help (Tremain 2004, 4, Walton 2002, 30-32, Chan 2005). As the financial backbone of an institution, private donors need special attention. They must be kept updated during the

recovery process so they are not alienated or offended (Candee and Casagrande 1993, Upton and Pearson 1978).

Inventory and Insurance

Museum differ from other businesses and public institutions because of the unique and often priceless objects that they preserve and display.   In the event of an emergency, museums must use a prioritized inventory of their collection to facilitate the recovery process (Candee and Casagrande 1993, 15, Upton and Pearson 1978, 6). When planning, the disaster coordinator should do a "worst-case scenario" walk-through of the museum to determine evacuation priorities (Dorge and Jones 1999, 143). Items must be properly labeled and stored to mitigate damage.

Insurance is an important component in a disaster plan. A museum must have as much insurance coverage on the building and the collection as it can afford (Lord and Lord 1997, 189). If a museum cannot afford the insurance premiums for extremely valuable items, appropriate security must exist to protect the item (Lord and Lord 1997).

Collection Restoration

A valuable consideration to any disaster plan is that of the restoration of damages to a museums' collection of artifacts (Upton and Pearson 1978). A restoration component ensures a museums' ability to quickly obtain the necessary resources to repair items that are damaged. Three most common categories of item restoration focus on paintings (Montana-Ryan 1995, 3), textiles (Turkovic-Kiseljiev 1995, and historical artifacts (Rush and Herro 2000). Additionally, disaster recovery plans must consider the case where an object is a complete loss (Giraldi 1994).

Business Recovery

The revenue generated by the membership, gift shop and ticketing is critical to the museum. The business recovery component's objective is to resume normal operations of the museums as soon as possible. Therefore business recovery is a necessary component of a disaster plan (Croy 2005, 18, Nelson 1999, 133). Recovery of the infrastructure of the museum is critical (Candee and Casagrande 1993, 11, Nelson 1999). Another aspect of financial recovery is applying for government assistance. FEMA, Small Business Administration and the National Endowment for the Arts all have programs to help institutions in need of recovery funds (FEMA 2000, 21, Candee and Casagrande 1993, 17).

Benefits of Research

The benefits of this research are twofold. The first benefit of the model disaster plan is the inclusion of a business recovery component. This helps museums recover revenue in a timely manner. The sooner a museum can bring back their ticketing, membership and gift shop revenue, the less likely the museum closes permanently after a disaster. The second benefit is that the survey conducted for this project illustrates the need for increased emphasis on disaster planning in museums. Many of the seven components of disaster recovery planning are not considered when museum directors create a disaster recovery plan. Even today, after major hurricanes and a constant threat of terrorism, many museums have not drafted a disaster plan. The survey results are an alarming indication for museum directors who should be more proactive in the development of a comprehensive disaster plan for their institution.

Chapter Summaries

Chapter Two briefly covers the history of museums, a list of previous museum disasters, and a discussion of business recovery. This is followed in the third chapter by the ideal model made up of seven separate categories, each of which are essential to a modern, comprehensive disaster plan. The methodology of the survey to museum directors in Texas is discussed in Chapter Four. Chapter Five summarizes the results of that survey. The final chapter concludes with recommendations to museum directors to guide them in the development of a comprehensive disaster plan.

Chapter 2

Role of Museums in Society and Past Disasters

Museums are prone to disasters just like any other building. A disaster for a museum is anything that severely interrupts its everyday business. With the right planning, a museum can recover and become a greater cultural force than ever before. From the 2004 theft of Edvard Munch's *The Scream* in Oslo to the 1993 terrorist bombing of the Uffizi Gallery in Florence, museums experience tremendous hardship, yet manage to survive (USA Today 2004, Giraldi 1994). This chapter briefly describes the history of museums, gives examples of disasters in museums, and discusses the importance of business recovery in disaster planning.

History of Museums in Society

Museums are non-profit entities that receive public and private donations to operate. Almost all museums take public money in the form of grants (e.g. National Endowment for the Arts, Texas Commission for the Arts). Museums are dedicated to the education of the greater public through the exhibition of art or historical items. The American Association of Museums (Ambrose and Paine 1993, 8) defines a museum thusly:

> A non-profit, permanent, established institution, not existing primarily for the purpose of conducting temporary exhibitions, exempt from federal and state income taxes, open to the public and administered in the public interest, for the purpose of conserving and preserving, studying, interpreting, assembling, and exhibiting to the public for its instruction and enjoyment objects and specimens of educational and cultural value, including artistic, scientific (whether animate or inanimate), historical and technological material.

This long definition states that museums can be a diverse group, but they have the same mission: to educate the general public and display cultural and scientific objects.

The first "museum" was the great library of Alexandria in Egypt. Built in the third century B.C. by the Ptolemy Dynasty it housed thousands of scrolls and became a place where scholars of the time would congregate to discuss their work. The library was a haven of knowledge before any university or think tank was founded. Euclid and Archimedes were on "the faculty" (Edson and Dean 1994, 3). Ironically, the library became the first example of a museum disaster when it was destroyed by fire in the third century A.D.

The modern museum is a product of the Age of Enlightenment. Before then, most cultural objects were kept by the wealthy in their private castles or kept by the church. The Catholic Church built huge cathedrals that contained relics of the Holy Land for public display. In the late seventeenth century the development of the scientific method and Enlightenment Era philosophy gave rise to the first museums. These museums were small, usually connected to a university (such as the Ashmolean Museum at Oxford University founded in 1683) and contained collections of plant and animal specimens for use in scientific study (Alexander 1994, 8).

During the eighteenth and nineteenth century museums grew and began collecting cultural objects that were of national significance. The Louve in Paris was founded in 1793. Napoleon took (or stole) cultural objects from his travels, conquering the world to fill the Louve and make it a source of national pride. Similarly, the British Museum became a depository of objects "collected" from the British colonies. Museums also added to their collections during the Industrial Revolution, as the old European estates went bankrupt as farming became less profitable. Landowners sold or donated much of their fine art to museums. At this time American museums collected large amounts of European objects. The wealthy of the Gilded Age donated large collections to new museums such as the

Metropolitan Museum of Art in New York and the Art Institute of Chicago (Alexander 1996).

Today, museums are not only warehouse cultural objects, but have an educational purpose as well. London's Victoria and Albert Museum was the first with a purely educational purpose by collecting examples of contemporary design and decorative arts. The collections helped educate future designers and decorative artists. In America, museums were particularly adept at becoming a "university of the general public" by focusing on educational programs, evident in natural history museums and children's museums (Alexander 1996, 12-13). Today, museums host summer programs for children and hire docents to lead groups of visitors on tours educating them about a collections' importance.

Museums also serve an economic purpose. Cultural institutions are important to the economic development of a city because they attract tourists from around the world. They endow cities with cultural value that leads to an artistic and educated community. Museums bring economic development to an area by creating jobs. Many cities that have lost their agricultural or industrial economic base build museums to attract visitors and generate needed revenue, since tourists fill additional hotels, restaurants, cinemas, concert halls, etc. (Ambrose and Paine 1993, 10). It is important for a city to maintain a museum for the cultural and economic benefits.

Disasters that Befall Museums

As long as there have been museums, there has always been the threat of fire, flood, and theft. The public expect museums to be a safe place for cultural objects. Unfortunately,

museums are not immune to natural or man made disasters. The following are some examples of calamities that have struck museums.

- In 1979, the Wichita Falls Museum and Art Center was partially destroyed by a tornado. Rudimentary disaster planning helped the museum survive, although it was a long recovery process. (Candee and Casagrande 1993, 2-5).

- On March 18, 1990, thieves dressed as police officers broke into the Isabella Stuart Gardner Museum in Boston and stole 18 works of art. This included the only seascape by Vermeer. Lack of security led to the theft. None of the items have been recovered and there is a $5 million reward for their return (www.gardner.org 2006)

- In 1993, a large bomb at the Uffizi Gallery in Florence, Italy destroyed several works of art by Renaissance masters. Quick restoration efforts and overwhelming public support allowed the museum to recover quickly (Giraldi 1994).

- In March 2003, the United States invaded Iraq. The chaos that followed led to armed mobs looting the Baghdad Museum. Many thousands of objects from the Mesopotamian and Babylonian eras were lost or destroyed. The U.S. Army did not have a plan to protect the museum before the invasion (Joffe 2004).

- In 2004 thieves walked into the Munch Museum in Oslo, Norway in the middle of the day. They removed the two most famous Edvard Munch paintings, *The Scream* and *The Madonna*, from the wall and walked out the front door with them. Tourists and security guards were too stunned to act. Lack of insurance and security has placed this museum in a precarious financial position and it may not survive (USA Today 2004).

- In August 2005, Hurricane Katrina devastated New Orleans. The New Orleans Museum of Art survived with little damage due to the quick response of the

employees and early protection by the National Guard. The New Orleans Aquarium was not so lucky. Power outages resulted in the death of over 4000 fish (Chan 2005).

Museums are vulnerable institutions. They can be targets of terrorism or get caught in a natural disaster. This research develops a model disaster plan to assist museums in recovering quickly from any calamity it may face.

Business Recovery and Disaster Planning

Non-profit museums generate revenue to keep up the exhibits, maintain the building, add to the collection and pay staff. Museums must prepare for a disaster or disruption through comprehensive disaster planning (Candee and Casagrande 1993, Upton and Pearson 1978, Dorge and Jones 2000). A true comprehensive plan considers routine business activities, such as payroll, as well as insurance and other financial liabilities. This sort of plan is commonly known as a Business Recovery Plan or Business Continuity Plan. Unfortunately, business recovery planning has not been emphasized as a critical component in museum disaster planning.

Business recovery is a diverse topic.   Most literature emphasizes private businesses rather than non-profit institutions. This is why museum disaster planners fail to include business recovery as part of their disaster planning. Croy (2005, 18) notes that business recovery planning is "not about anticipating every possible disaster, but rather, it is about keeping business going forward despite disruption." Hence, business recovery planning should reduce the time a museum is closed after a disastrous event. Sievers (2005) differentiates business recovery planning from two other types of disaster recovery planning: emergency management and disaster recovery.

A business continuity planner "would perform a risk assessment and business impact analysis to determine the incidents likely to have the biggest impacts upon business operations, then quantify those impacts in term of potential lost revenues, with black and white, dollars-and-cents estimates" (Sievers 2005, 48). Business continuity is most concerned about revenue generation.

A disaster recovery planner "would quantify those impacts in terms of the technology components to which they corresponded, and then determine viable recovery strategies for each, along with their estimated cost" (Sievers 2005, 48). Compared to business continuity planning, disaster recovery is more information technology-based and deals with infrastructure.

An emergency management planner "would analyze the impacts in terms of their potential adverse effects upon human lives, company facilities and property, and the corporate image, and then determine strategies for mitigating and responding to those effects, along with their estimated costs" (Sievers 2005, 48). Emergency management deals more with immediate human need and immediate recovery actions. Disaster planning consultants interchangeably use the terms emergency management, emergency planning, disaster recovery, continuity planning, business recovery and business continuity. The following table shows various disaster planning terms and their common definitions.

Table 2.1: Disaster Planning Terms

Term	Common Definition
Business Recovery	Financial recovery- Returning to business as soon as possible
Business Continuity	Similar to Business Recovery- Trying to reduce disruption to revenue
Disaster Recovery Planning	Recovering infrastructure such as computer systems and the building (In a museum context this would include the collection)

Emergency Management	Deals with the human element- Safety of staff, dealing with emergency responders, securing the building to mitigate additional harm

Articles and books written by museum personnel discuss appropriate ways that museums can mitigate damage in an emergency or discuss how to recover valuable objects after a disaster. The human element and the business element of recovery are rarely discussed[2]. The articles on business recovery techniques come from emergency management experts and consultants[3].

Lack of Disaster Planning in Museum Studies

For disaster planning to become a priority for a museum, it must be emphasized in museum education. The Museum Studies discipline has been slow to include disaster planning in its curriculum. Six major museum management textbooks, *Managing Museums and Galleries* by Michael A. Fopp (1997), *Museum Governance* by Marie C. Malaro (1994), *Museum Management* by Kevin Moore (1997), *Museum Basics* by Timothy Ambrose and Crispin Paine (1993), *The Handbook for Museums* by Gary Edson and David Dean (1994) and *Museums in Motion* by Edward P. Alexander fail to discuss any type of disaster/emergency planning or recovery. Lord and Lord's (1997, 151), *The Manual of Museum Management* mention the need for an emergency plan only briefly in their chapter on "Security". They mention that "a security policy should include: Risk Analysis, Health and Safety Precautions, Insurance coverage and valuation procedures, Security equipment [and] an Emergency procedures manual" (Lord and Lord, 1997, 151).

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[2]For example Candee and Casagrande 1993, Dorge and Jones 2000, Upton and Pearson 1978 are guides for museum directors to build a disaster plan. There is no section on business recovery.

The paucity of information about disaster recovery in general museum literature is problematic because students of museums studies, the future curators and directors, are not educated in the mechanics of emergency planning. Professionals in museums need a tool that helps them prepare and recover from a disaster. The model discussed in the following chapter is such a tool.

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[3] For example see Carman 2002, Croy 2005, Davis 2003, Huser 2003, Koehler 2003, Miano 2003, Sievers 2005 and Walton 2002. These authors are disaster recovery consultants that do not specifically discuss non-profits or museums.

Chapter 3

The Disaster Preparedness and Recovery Model

Disaster planning has not always been a priority for museums (Dorge and Jones 1999). The field could use a comprehensive disaster plan with a business recovery emphasis. This chapter designs an ideal model that outlines a disaster recovery plan that includes business recovery for museum directors. The purpose of this chapter is to organize the major components of disaster preparedness and recovery for museums. Seven categories describe ways that museums can survive a disaster. The categories are the basic structure of a model disaster plan. The categories are:

- **role of management,**
- **threat assessment,**
- **personnel organization**,
- **communication,**
- **inventory and insurance,**
- **collection restoration,**
- **business recovery**.

The following sections define the components and justify their inclusion in the model.

Role of Management in Planning

The first element in a disaster plan is the recognition of management that such a plan is necessary. This requires an understanding and acknowledgement of the need **for museums to have some sort of disaster or emergency plan**. According to Miano, (3003, 30):

> Effective disaster contingencies should be all-encompassing plans
> that address all of the factors and issues to ensure an enterprise is

prepared to deal with any eventuality. Whether before, during, or after an event, these documents prepare company management and staffers with a logical series of precautionary and pro-active steps. When implemented, these guidelines should enable a business to bounce back to an acceptable level of productivity, as quickly as possible, so it can continue to thrive.

Miano is a private, business emergency planning expert. Yet there are museum experts who strongly advocate an emergency plan. For example, Dorge and Jones (1999, 27) asserts that a museum director has the ultimate responsibility for the creation of the plan:

As the director of your institution, you are the guiding force behind the emergency preparedness and response process. Certain duties may be delegated to qualified staff members, but you are ultimately responsible for the development and implementation of the emergency preparedness program and the creation of the emergency plan.

The emergency plan can only be truly effective if management acknowledges and fully supports its implementation. Tremain (2004, 2) writes, "Getting **support from management** is key to the success of the plan. Without this, you will get nowhere." Tremain (2004, 1) continues to explain why so many museums have not made emergency planning a priority:

Maybe it's the innate belief that they don't need one—because it can't happen to them, but if it did, the emergency services would deal with it—while others may feel that it's too much work, that they don't have enough time, and there are too many other things to get in the way. Possibly all of the above, but, as Abraham Lincoln once said: "By failing to prepare, you're preparing to fail."

Smaller museums have not prioritized emergency planning a priority due to lack of resources and a lack of foresight.

Museums that have a basic emergency plan, (i.e. a plan that would address the immediate response in an emergency) may still require a plan that addresses a more advanced response, such as a business continuity plan (Koehler 2003, 55). Koehler (2003, 58) explains that organizations should go beyond traditional emergency planning and develop a more comprehensive **continuity plan**:

> A continuity plan provides your public organization with the
> necessary information not only to respond to the emergency
> disaster, but also to recover and resume operations of the critical
> services your public entity provides. It's a type of plan that both
> the public and private sector should consider a necessity. It
> follows a best practices methodology that utilizes a multiple
> recovery team structure that addresses all the elements of your
> organization.

Davis (2003, 18), another emergency planning consultant, advocates a Continuity of

Programs (COOP) structure. This multi-year strategic plan covers all programs and

operations of an entity. He describes the concept the following way:

> COOP capabilities require substantial effort; as a result, plans
> should be developed and maintained using a multi-year strategic
> plan. The strategic plan should outline the process the agency will
> follow to designate essential functions and resources, define short
> and long-term COOP goals and objectives, forecast budgetary
> requirements, anticipate and address issues and potential obstacles,
> and establish planning milestones. It is important that this not
> simply be a plan. Arrangements must be made to guarantee the
> availability of the needed space and equipment for alternative site
> operations. Without actual buildings and equipment, COOP plans
> will be worthless.

Davis (2003) stresses that plans are not mere pieces of paper but are true guidelines that are

well thought out and will be well known throughout an organization. Continuity planning is

difficult. Small organizations, such as most museums, neglect planning because of lack of

foresight to a disaster. By acknowledging the necessity of a disaster plan, a museum manager

is taking the first step toward saving her institution in a time of disaster. The following

category describes how a museum can plan by using threat assessments.

Threat Assessments

After museum management decides that a disaster plan is necessary, threat

assessments must begin. The first step on the threat assessment list involves **deciding**

which threats are the most likely to affect the museum. Is it in an area prone to

tornadoes, hurricanes or floods? Is it near a major landmark that may be a terrorist target?

Candee and Casagrande (1993, 6-9) divide potential disasters into four groups. The first includes natural disasters such as earthquakes, hurricanes, tornadoes, floods, fire and building failure. The second type of disaster is man-made. Those are theft, vandalism, bomb threat, arson, water damage from pipes, medical emergencies, power outages and chemical emergencies. The third type of disaster covers chronic problems, such as pest damage, contaminants, incorrect temperature or humidity and light radiation. The final category of disaster includes catastrophic disasters such as terrorist attack or war. This list mirrors Upton and Pearson (1978), who wrote an earlier guide for Australian cultural institutions. They divide the disasters into roughly the same categories. However, their work reflects a more international perspective and discusses in greater detail the effect of war and civil strife on museums.

Once the hazards for a museum building are identified, the planner must analyze any potential dangers presented by the hazard, and assess vulnerability and risk (Nelson 1991, 73). A planner assess the vulnerability by looking at weather data for the area, whether the museum lies on any fault lines, research crime statistics for the area and consider the physical condition of the museum. Older building are more likely to be vulnerable (Nelson 1991, 73-74). Risk and vulnerability is assessed by calculating the value of potential damages, i.e. how much it would cost to replace a roof or clear a flooded basement (Nelson 1991, 74). Candee and Casagrande (1993, Appendix A) include a sample form that lists all potential museum hazards in their handbook. Adjacent to each hazard is a scale from "very likely" to "very unlikely". The planner uses the list to assess the vulnerability of the museum to each hazard. For example, a building in San Marcos might check "very likely" to the prospect of flooding.

The two main dimensions where a threat assessment is needed is the building and the collection. The **threat assessment of the building** begins with the identification of an

individual who understands the structural integrity of the building. Candee and Casagrande (1993, 11) explain:

> The basic knowledge of structures, building types, and materials is useful. If no one on your staff has such knowledge, then the assessment of the museum should be done using someone from the community who is familiar with construction and design. Ideally, you may want to involve the original architect and contractor. If this is not possible, you may wish to obtain the assistance and expertise of a local architect or architectural firm.

Knowing the strengths and weaknesses of the building helps the curator decide where to place objects throughout the museum. An assessment of the building is essential, because once the building has been repaired following a disaster, the collection can be returned and the museum can be reopened.

Although the building is assessed first, Lord and Lord (1997) also discuss **threat assessment of the collections**. They require a planner ask themselves four questions to determine which items are of greatest risk and therefore need the greatest protection. "What is to be protected?" (Lord and Lord 1997, 151) Art and artifacts should be appraised for monetary value and rarity. Obviously, the more valuable items take higher precedence in recovery operations. "What are the threats?" (Lord and Lord 1997, 151) This applies the likely threats for the area to the specific artifact or work. "What level of risk is acceptable?" (Lord and Lord 1997, 151) Nothing can totally eliminate risk, so the museum planner must have a priority list of objects which considers insurance values. "What countermeasures are appropriate?" (Lord and Lord 1997, 151) This includes the level of the alarm system, how zealous guards should be, the implementation of firewalls and a complete emergency manual which fully covers the defense of the museum.

While Lord and Lord (1997) discusses security in the event of a man made or natural disaster, Montana-Ryan (1995, 1) discusses common, everyday threats to a museum collection.

The museum community has become more aware of other agents of deterioration such as ultraviolet light, pollutants, unstable temperatures and relative humidity levels. Still other agents of deterioration include physical forces such as shock, vibration, and abrasion, the result of catastrophic events like earthquakes or seemingly innocuous events like improper handling. Finally, the most common agent of deterioration is man; whether by intention (vandalism) or through normal contact by staff and users.

The chronic problems are non-emergency situations. The curator's foremost responsibility is the protection of the museum's collection. Most museums protect their objects from deterioration well. Sudden threats to a collection require a special manual for disaster recovery and continuity planning. Once the threat level of a museum has undergone assessment, the planner must organize the museum's personnel in preparation for a disaster.

Personnel Organization

After an analysis of the possible threats a museum might face has been established, the next element to be considered is personnel organization. The first step in personnel organization is the appointment of an **emergency planning coordinator**. Dorge and Jones (1999, 47) call this position Emergency Preparedness Manager (EPM).   The EPM must create an emergency preparedness committee to oversee drafting and maintaining the plan, organizing training sessions, involve outside authorities such as first responders and police and keep the museum director and board of trustees aware the committees' progress (Dorge and Jones 1999). Upton and Pearson (1978, 15) describe a position of Emergency Services Officer that takes command *after* an emergency has occurred. They recommend a very structured command where orders are given to help recover any damage to a museum.

In addition to an emergency coordinator, Koehler (2003) advocates the **organization of teams and committees** to manage various tasks necessary to reopen the museum. He recommends forming an Emergency Response Team, Crisis Management Team, Administrative Team, Damage Assessment and Reconstruction Team, Support

Functions Team and Public Services Team. Koehler also suggests that everyone know their position and team assignment prior to a disaster to respond more efficiently. Appointing teams prior to the emergency will save valuable time and effort. The recovery can begin immediately.

Candee and Casagrande (1993) concur by emphasizing that all team members must be issued all updates to the plan. They also recommend a **training and emergency drill schedule** for team members. Since museums staffs tend to be small, Candee and Casagrande (1993, 13) suggest all employees have annual training in the following areas:

- Disaster preparedness drills for likely disasters
- Procedures for notifying emergency personnel, fire, police evacuation drills
- Medical emergency procedures, with at last one person on staff with standard first aid and CPR training and, if possible, EMT training
- Emergency utility cut-off drills
- Emergency supply check
- Tests of fire suppression and security systems
- Other (i.e. installation of storm windows, emergency relocation of collections and exhibits, etc.)

This comprehensive list of drills covers most of the immediate disasters a museum may face. **Training drills** may present a challenge in a museum setting because it would interrupt daily visitors. Watkins (2000, 171) advises that when deciding upon a training schedule, a museum should follow FEMA training models.

> The FEMA training model can be easily utilized by museums, historic sites, and other cultural institutions for the training of personnel in preparedness and recovery methods and operations. Adaptation of an existing program saves management time when designing a program. Using established training model from a profession versed in emergency response provides a standardized language and approach. The interaction that training can provide fosters communication among professionals to achieve common goals such as reducing damage and providing safe, fast recovery of endangered life and property.

Although FEMA training models are well established, they tend to be generic operations and a museum must tweak a program to guarantee effectiveness.

Two case studies in the literature that illustrate the benefits of appropriate personnel organization after a disaster. The first case study involves the Los Angeles County Museum of Art during the 1992 Los Angeles riots. The museum's storage facility in South Central LA was in the midst of the violence. A fire had broken out in an adjacent building and the sprinkler system activated. Water soaked the museum's collection of textiles and costumes (Turkovic-Kiseljiev 1995). At first, due to safety issues, museum personnel were prohibited from visiting the site for several days. The museum contacted the National Guard to gain limited access. Curators removed the most damaged items and cleaned what they could. After the riots, all the items were brought back to the main museum to dry and be restored. Fortunately, there were very few losses to the collection because the museum staff followed proper storage guidelines. More importantly because of pre-planning, teams rallied quickly to deal with the emergency.

> The combined effort of conservators, collections manager, curators, curatorial assistants, and volunteers was fundamental to the successful completion of this rescue operation. Teamwork was critical, and teamwork made it possible to save the artifacts. Each person who was part of the team was clear about his or her responsibilities in a chain of command that had been clearly defined before the emergency. (Turkovic-Kiseljiv 1995, 82)

Personnel organization is the most critical aspect of emergency planning in this case study.

The second case study the museum was not so fortunate. In 1990, the Royal Saskatchewan Museum suffered a major fire that partially destroyed the building. The parts of the museum not burned were inundated with smoke and water damage. The museum had no written disaster plan. Costly time had to be taken to organize teams of restoration specialists and construction experts after the fire to begin rebuilding the museum. The conservators did not anticipate the amount of time needed to clean the artifacts. Everything was covered in soot, even the specimens behind glass. While one wing of the museum and some of its educational programs returned quickly, the rest of the restoration lagged behind.

Spafford-Ricci and Graham (2000) blame the lack of disaster preparedness and especially the lack of teamwork during the restoration. Furthermore, museum officials were ineffectively communicating with outside help, such as the construction manager and insurance adjuster (Spafford-Ricci and Graham 2000, 34).

> The fire response and recovery at the Royal Saskatchewan Museum could have been much different if the museum had carried out disaster planning. No discussions of disaster planning had taken place, so the museum management and staff were not prepared either psychologically or physically for the fire disaster. More important, they were unprepared relative to the other players involved in the fire recovery. This lack of preparation had a direct effect on the success of the collection recovery and the long-term preservation of the museum's collections.

The fire cost the museum $6 million, much more time and money than necessary. A disaster plan is the greatest factor in an emergency situation which determines whether a museum will recover quickly, or be out of service for months to years, losing precious revenue.   This case study also illuminates the necessity of good communication in a disaster.

Communication

Once personnel have been organized and disaster teams have been established, effective communication in a disaster situation must be planned. This is the beginning of the recovery aspect of the disaster plan. Communication in an emergency planning process can take several different forms. The first is **communication among museum personnel**. Dorge and Jones (1999) warn that "all too often one or a few individuals toil in isolation on the emergency plan. Except for a binder that one day may magically appear on desks throughout the institution, nothing else is done to make others aware of the process" (Dorge and Jones 1999, 71). The emergency planner requires support from the institution to disseminate the emergency plan to all staff. They suggest scheduling debriefing meetings for staff to get the word out.

In the event of disaster, museum personnel must be able to contact one another. A phone tree must be established (Tremain 2004) and updated regularly. A phone tree is a master list of the personal phone numbers for all staff. The first to hear of disaster calls the museum director; the museum director calls the department heads; each department head calls their managers; and managers call their line staff. This is designed so information can be transmitted clearly and quickly. It is critical that the emergency response coordinator routinely update the phone tree, adding and subtracting employees when there are personnel changes at the museum. Carman (2002,44) not only recommends a phone tree, but suggests all staff carry a Personal Digital Assistant (PDA), such as a Blackberry, to keep them informed by email updates.

> High speed notification technology can speed the process of creating call-out rosters and can dramatically reduce the number of errors. Many of these systems can import records from existing contingency planning software packages and most human resource databases, automatically building call-out rosters.

Carman (2002) does not address the factor of cost. An expensive PDA for each staff member may not be cost effective. Nevertheless, communication must be quick and efficient in a disaster situation.

Communication with emergency responders is another dimension of communication to be included in the disaster plan. Tremain (2004) suggests that museums "Talk to city and state officials, particularly those involved in emergency planning, to see where your institution fits into the grand scheme of things" (4). In a large scale disaster, such as Hurricane Katrina or 9/11, the museum might not be a high priority for emergency responders. Museums must to know where they stand in the city and state emergency plans, so they know what sort of response to expect. Walton (2002) suggests that organizations need to "close the culture gap" between themselves and government officials such as the police and National Guard. He advocates sharing the emergency plan with the authorities

and educating them about the services the museum provides. Their familiarizing of the museum will help in times of crisis (Walton 2002, 30-32). After Hurricane Katrina., the New Orleans Museum of Art received aid from the National Guard before many other buildings because they established a good relationship with city and state officials (Chan 2005).

Another group that requires communication following a disaster is **private donors**. A museum depends on private donations and memberships to raise funds to operate the institution. When disaster strikes, private donors should be kept updated about the recovery process to maintain confidence the museum. Often these donors have lent their own artifacts to a museum. The museum must assure the donor that the object is safe, or file a claim with the insurance company to recoup as soon as possible. Museums cannot afford to lose the confidence of their patrons (Upton and Pearson, 1978, Candee and Casagrande 1993).

A case study in communication comes from the Virginia Historical Society (Rusch and Herro, 2000). In 1992, a pipe froze and subsequently burst releasing 8,000 gallons of water throughout the four floors of the museum. Historical manuscripts and rare books were the most damaged in the institution. This disaster occurred during the New Years holiday. The Museum phone tree was out of date, impacting the ability to contact all the staff (Rusch and Herro 2000, 133). The disaster recovery plan was incomplete, and not all the phone numbers of staff or outside vendors were attached to the plan. The Virginia Historical Society relied on the insurance company to procure emergency equipment such as industrial sized fans, freezers to put the manuscripts in, and to notify other conservators across the country. In addition, there were issues with personal communication between staff. Rusch and Herro (2000, 133) explain:

> Disaster recovery plans and the chain of command in the event of an emergency should recognize that people react differently in a crisis situation. Emotions run very high. Colleagues who are

> perfectly congenial and professional under normal circumstances
> may behave in counterproductive ways during a disaster and
> recovery when asked to perform tasks outside their usual course of
> duties. Because of stress, communication can be ineffective.
> People given authority by the command post to complete certain
> tasks should be assisted and not thwarted. Lack of cooperation
> hampers the response time.

During the planning process it would be beneficial for everyone to know their duties and roles during recovery prior to disaster to reduce arguing and bickering over task assignments.

Inventory and Insurance

The final three elements of the disaster recovery plan address the organization of the building and business. This element, inventory and insurance, begins to cover the fate of the museum collection a disaster situation. Museums differ from other businesses or public institutions because of the unique objects that they take care of and display. In the event of an emergency, museum staff should have a plan on how to evacuate, protect and repair all objects in the museum (Candee and Casagrande 1993, Upton and Pearson 1978, Dorge and Jones 1999). The first step is to have a **comprehensive inventory list**, a document that should already exist with the museum registrar. For disaster recovery purposes, the museum will need to prioritize their assets. (Candee and Casagrande 1993, 15) This list may change depending on the type of disaster. For example, the historical manuscripts sustained the most damage in the Virginia Historical Society disaster; therefore, they received the first attention. If a museum sustains damage to the entire building, then the most rare and valuable assets deserve the highest priority. Items loaned by patrons also get high priority since donors deserve special attention in a crisis situation. Dorge and Jones (1999, 143) recommend that the museum staff should do a "worst case scenario" walk through the museum to identify which objects can be most easily rescued. They also suggest that no objects are stored on the floor (to mitigate water damage); check the inventory lists and ward

against "sloppy housekeeping practices" and properly secure display items (Dorge and Jones 1999, 142).

Upton and Pearson (1978, 6) also suggest a **prioritized salvage list**. They would categorize the objects into three groups as follows:

> a. Category A material: National treasures and irreplaceable objects.
> b. Category B material: Objects of very great importance or cultural value and extremely specialized equipment.
> c. Category C material: Objects of great importance or cultural value.

Upton and Pearson (1978) also discuss the Hague Convention of 1954. This is an international agreement that items of high cultural importance will not be destroyed in armed conflict. This would apply to "Category A" materials. A salvage list will also identify which items to protect first in the event of looting after a disaster.

The most precious items in a museum are *not* likely to have **insurance coverage**. Insurance premiums on these objects are prohibitively expensive. For example, when *The Scream* was stolen, the Munch Museum did not have any insurance coverage on it because the painting was virtually priceless (USA Today 2004). Lord and Lord (1997, 187) warn against undervaluation of items to reduce premiums. In the event of a disaster, a museum will need as much cash as possible to defray the cost of the damage. The five kinds of insurance are: "insurance on the collection, insurance on buildings, insurance on equipment, liability insurance and insurance on loans" (Lord and Lord 1997, 187). Each institution must decide what the appropriate level of insurance is for its situation. Public museums rarely insure buildings because they are owned by a government entity. However, they would have insurance on most of the collection because the premiums would be affordable. Private museums may have limited liability insurance on the building, but might not insure the collection, in order to keep premiums low. Lord and Lord (1997, 189) recommend that

museums apply for all possible government assistance they are qualified for after the incident. Government assistance supplements insurance coverage.

Collection Restoration

After the inventory and insurance is planned, it is imperative that a plan for the restoration of items is drafted to address the ones that are damaged in a disaster. A museum is a building full of items to be seen by the public. If there is a disaster, once the immediate safety of the staff and patrons is secured, the collection must be saved. There are a variety of ways that items can be restored. Much of the museum-related literature focuses on the restoration of objects. Some of the expense of restoration can be saved through mitigation. These practices include keeping items off the floor, using appropriate security measures and having an emergency procedures manual (Upton and Pearson, 1978). Next, begin restoring the damage to the items. First, stop the deterioration in progress. This includes drying out wet textiles (Turkovic-Kiseljiev 1995) or books (Rusch and Herro 2000). Next, objects must be put into the hands of professional curators to reverse the damage if possible. Restoration is a delicate process because too much meddling on an object will reduce value.

Montana-Ryan (1995) devotes an article to **painting restoration**. She focuses on the handling of a painting and the necessity of keeping the proper humidity. Humidity levels are important because high humidity may attract mildew and mold, which deteriorates paint (Montana-Ryan 1995, 3). Montana-Ryan emphasizes that temporary storage facilities, (places where paintings would go if there was an emergency) must have the proper temperature and humidity levels as well.

With **textiles**, water is the greatest threat. Water makes dyes run together and could ruin an artifact. After the Los Angeles riot, conservators at the LA County Museum of Art closed their main building and arranged all the damaged textiles on the floor and placed giant

fans in the room to dry them out as quickly as possible (Turkovic-Kiseljiv 1995). It was necessary for objects to dry quickly to prevent growth of mold and mildew.

For **historical items**, the Virginia Historical Society put their wet books and manuscripts in a dry freezer. This prevented further deterioration until professional manuscript conservators could determine the next course of action. They also removed items from the building because the humidity levels could not be controlled. It is important during collection evacuations that all items are accounted for and removed in an orderly fashion to guarantee that no items are lost (Rusch and Herro 2000).

Even with the best planning and restoration teams, losses may still occur. In 1993, the Uffizi Gallery in Florence was bombed by the Mafia. Giraldi (1994, 149) describes the situation after the initial response:

> A year later, Anna Maria Petrioli Tofani, curator of the Uffizi Gallery, still grieves for the tragedy and for the lost and damaged works of art: 'A painting that has been damaged will never be the same again, however well it has been restored', she says 'At first, considering the immediate damage cause by glass and plaster we made an estimate of thirty paintings in need of repair. Looking more carefully we realized that many other paintings had been damaged by the effect of the blast although the damage was not visible to the naked eye; for example the wooden panels of some altarpieces had split and, in some ancient sculpture, which had undergone restoration maybe in the fifteenth century, there was a loosening of the fabric where the various pieces had been attached together. All this was slowly discovered through X-rays. The total damaged works is therefore not thirty as the first estimate showed, but ninety.

Sometimes damage is irreversible resulting in total loss. The Uffizi established a charity, the Friends of the Uffizi, to help the museum purchase new pieces of artwork to replace items lost in the bombing. The Virginia Historical Society also bought replacement books when the originals could not be saved (Rusch and Herro 2000). The most important aspect of collection restoration is that the emergency response coordinator and the restoration team know who to call in an emergency and know how to mitigate damage on objects while waiting for expert help to arrive.

Business Recovery

After the building has been evacuated and the collection is securely undergoing the process of restoration, the revenue of the museum is to be considered. "Whether a bomb blows up a building and takes out its functionality or a tornado hit it, the impact is the same. Business continuity planning efforts need to focus separately on causes and impacts" (Croy 2005, 18). No matter what the cause of the disaster, the **financial recovery** will be the same process. Nelson (1999) advocates a cautious approach: "Emphasizing patience, and realizing that recovering from a disaster will not take place overnight, a schedule for recovery activities can be developed" (133). Nelson mentions the National Trust for Historic Preservation timeline for recovery where there is progressive restoration in a five year plan. This plan, however, assumes a total loss of the building. Most recoveries take much less time. The goal of business recovery is to resume the normal operations of the museum as soon as possible. The membership, gift shop and ticketing must all resume normalcy quickly to stem revenue loss.

The first step is having a business continuity plan. Tremain (2004, 2) poses five questions that each business continuity planner must ponder when writing the business continuity plan.

> 1. What are the key functions of the museum?
> 2. What services does it provide?
> 3. What would it cost if an incident caused the museum to shut down for a period of time?
> 4. What would be an acceptable amount of down time?
> 5. What would be the impact, financially and on staff, in the short-term and in the long-term?

The financial aspect of a museum loss is not emphasized in museum-based literature. The prevailing assumption is that the insurance company or government will cover the loss. Proper insurance coverage did not prevent the Virginia Historical Society from losing

$76,000 in revenue (Rusch and Herro 2000, 132). For most museums that amount of revenue loss is devastating, possibly resulting in permanent closure.

Building recovery is also important. The building must be cleaned and stabilized for future visitors (Nelson 1999). Candee and Casagrande (1993, 11) recommend professional help in this area of recovery: The authors also suggest that staff be knowledgeable about the building and recognize all vulnerabilities of the building:

> Specific points of vulnerability must be considered, including entrances/exits, pipes, wiring, windows, and glass. These are particularly susceptible to various damage. Conversely, it is important to assess the strong points of the structure for use as an emergency shelter since it is likely that the building will be occupied during some types of disasters.

The building must be recovered and considered safe by proper authorities, before anyone can reenter it or repairs can commence.

After the building and collection are secure, another aspect of business recovery is applying for **government assistance**. FEMA offers assistance only in the event of a declared federal disaster area (FEMA 2000, 21). Alternative sources for assistance include the National Endowment for the Arts and Small Business Administration. City and state governments may also provide monies and resources after a disaster (Candee and Casagrande 1993, 17). However, museums must not solely depend on governmental aid, especially if damage is localized at the museum or the museum is privately owned.

Conceptual Framework for a Comprehensive Recovery Model

The forementioned categories for comprehensive disaster recovery have been placed together on the conceptual framework table below. The material in Table 3.1 demonstrates how the seven categories together form a model preparedness and recovery plan for

museums. It includes the vital business recovery aspect that is lacking in previously

published plans.

Table 3.1: Conceptual Framework for Museum Disaster Preparedness and Recovery Model

Category	Sources
Role of Management in Planning • Management involvement • Need for comprehensive disaster plan • Continuity planning	Dorge and Jones,1999 Miano, 2003 Davis, 2003 Koehler, 2003 Tremain, 2004
Threat Assessment • Likelihood of disasters for particular area • Threat assessment of building • Threat assessment of collection	Nelson, 1991 Upton and Pearson, 1978 Montana-Ryan, 1995 Candee and Casagrande,1993 Lord and Lord, 1997
Personnel Organization • Establishing emergency management coordinator • Organizing teams and committees • Training and emergency drills	Dorge and Jones, 1999 Upton and Pearson, 1978 Koehler, 2003 Candee and Casagrande, 1993 Spafford-Ricci and Graham, 2000 Turkovic-Kiseljiv, 1995 Watkins, 2000
Communication • Museum personnel • Outside emergency responders • Private sector and donors	Dorge and Jones, 1999 Walton, 2002 Carman, 2002 Tremain, 2004 Rusch and Herro, 2000 Upton and Pearson, 1978 Chan 2005
Inventory and Insurance • Collection inventory & salvage lists • Insurance coverage	Dorge and Jones, 1999 Upton and Pearson, 1978 Candee and Casagrande, 1993 Lord and Lord, 1997
Collection Restoration • Paintings • Textiles • Historical items	Upton and Pearson, 1978 Giraldi, 1994 Montana-Ryan, 1995 Turkovic-Kiseljiev 1995 Rusch and Herro, 2000

Business Recovery	Nelson, 1999
• Financial recovery • Building recovery • Government assistance	Croy, 2005 Candee and Casagrande, 1993 Tremain, 2004 Rusch and Herro, 2000 FEMA , 2000

Conclusion

The seven categories describe the ways that a museum can prepare and recover from a disaster. This chapter produces an ideal disaster model with the emphasis of business recovery. Management must be involved in the process of planning, starting with threat assessments, followed by the organization of museum staff and other personnel. Communication expedites the recovery process on the ground. Planners must consider the inventory and insurance coverage to get the claim started. Next, collection restoration should commence, making the recovery immediate as possible. The final step of business recovery mitigates the loss of revenue that occurs after a disaster. Taken together, these seven dimensions compose a comprehensive disaster recovery plan for a museum or any other cultural institutions.

The model is utilized to construct a survey of gauge the opinions of Texas museum professionals regarding the status of museum disaster planning in Texas. The next chapter documents the methodology that was used in the study.

Chapter 4

Methodology

Since a purpose of this research is to describe the ways that museums can prepare for and recover from a disaster, it would be of use to know what the current opinions of museum personnel are regarding disaster planning in Texas museums. The third purpose of the research is to use a survey to ask opinions of Texas museum management about the state of disaster planning. According to Babbie, (2004, 243) "surveys are also excellent vehicles for measuring attitudes and orientations in a large population". The opinions of museum personnel may illuminate the level of preparedness of Texas museums as a whole and will be useful for preparing recommendations that improve current practices. Additionally, it reflects the level of concern among Texas museum professionals regarding business recovery in disaster planning.

Survey and Operationalization Table

This survey is constructed using the conceptual framework. The conceptual framework enumerates seven categories that constitute an ideal disaster plan for a museum. To ascertain the opinion of museum professionals on the compliance of Texas museums with the model, each category and subcategory is linked to a statement in the operationalization table (Table 4.1) that applies that specific component of the plan.

The operationalization table (Table 4.1) links specific survey statements to components in the conceptual framework that comprise the business recovery model. For example, the statement "Texas museums are aware of the range of governmental assistance available to them after a disaster," tests the component of governmental assistance. Each assertion was designed to elicit an opinion about a specific component of the ideal model.

Most questions were responded with agree-neutral-disagree. There were few very strong

opinions with the exception of the collection restoration series of statements (See Appendix

A for the list of statements in the questionnaire). Most of the statements' responses resulted

in a normal distribution. Each category in the ideal model was operationalized in two to five

statements on the questionnaire

Table 4.1: Operationalization Table for Museum Disaster Preparedness and Recovery Model

Category	Survey Question[4]
Role of Management in Planning	
• Management involvement	Museum managers in Texas take an active role in disaster planning. Texas museum managers have made disaster planning a priority in the past.
• Need for comprehensive disaster plan	Texas museums develop comprehensive disaster plans.
• Continuity planning	Texas museums put sufficient emphasis on business continuity planning.
Threat Assessment	
• Likelihood of disasters in a particular area	Texas museums analyze the threat potential against their institution. Texas museums rank the likelihood of disasters for their area.
• Threat assessment of building	Texas museums assess the threat posed against their building.
• Threat assessment of collection	Texas museums assess the threat posed against their collections.
Personnel Organization	
• Establishing an emergency management coordinator	Texas museums designate someone as an emergency management coordinator.
• Organizing teams and committees	Texas museums form preplanned teams before an emergency. Texas museum personnel are appropriately organized in the event of disaster.
• Training and emergency drills	Texas museums emphasize emergency drills. Texas museums enact emergency drills (i.e. evacuation of the building, fire drills, etc).
Communication	
• Museum personnel	Texas museum personnel would communicate effectively in a disaster situation.

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[4] Each questionnaire item was measured on a scale 1= Strongly Disagree to 5= Strongly Agree

• Outside emergency responders	Texas museums communicate effectively with emergency responders in a disaster situation.
• Private sector and donors	Texas museums effectively communicate with the private sector, especially donors, in a disaster situation.
Inventory and Insurance	
• Collection inventory and salvage lists	Texas museums prepare salvage lists in the event of an emergency.
• Insurance coverage	Texas museums carry appropriate amounts of insurance and inventory their collection.
Collection Restoration	
• Paintings	Texas museums have the ability to quickly restore any damaged items in a collection. Texas museums have the ability to quickly restore a painting in the event of an emergency.
• Textiles	Texas museums have the ability to quickly restore a textile in the event of an emergency.
• Historical items	Texas museums have the ability to quickly restore historical items in the event of an emergency.
Business Recovery	
• Financial recovery	Texas museums are planning for the financial recovery of a museum in the event of a disaster.
• Building recovery	Texas museums have the appropriate plan to recover their building in the event of an emergency.
• Government assistance	Texas museums are aware of the range of governmental assistance available to them after a disaster.

The categories for the model plan are divided into subcategories. Each subcategory contains one or two statements that seek an opinion on the level of importance that each item has in disaster planning. The survey does not require actual disaster plans for a respondent's institution to protect an institution's privacy. Respondents are more open if they are reporting about their specific institution. The strengths of a close-ended survey such as this are that it will "provide a greater uniformity of responses and are more easily processed than open-ended ones" (Babbie 2004, 245). The weakness is that "researcher's structuring of responses may overlook some important responses" (Babbie 2004, 245). This survey is designed to measure the general opinions of museum personnel as it applies to disaster recovery.

Sample

The survey issued to 284 museum directors and curators, uses a Likert scale to weigh the opinions of museum personnel regarding the current state of disaster planning[5]. The questionnaire consists of a series of twenty-five statements that respondents were asked their opinion on a 1-5 scale of agreement (strongly agree to strongly disagree). The percentages of the combined responses "Strongly Agree" and "Agree" and "Strongly Disagree" and "Disagree" were calculated to determine overall opinions for each statement. In addition, the museum's director was asked to describe the size of their museum- as small, medium or large.

The sampling frame for this survey was limited to museum managers, curators and directors of museums who are members of the Texas Association of Museums (TAM). TAM maintains a comprehensive directory of over two hundred and eighty cultural institutions in Texas. The TAM directory provides a mix of small, medium and large institutions. Of the 284 surveys sent out by mail, 124 were returned. Five surveys were returned unanswered with notes that the respondent did not feel comfortable enough or felt they were not qualified to answer the survey. Nine surveys were partially completed; most of which neglected the back page. Fourteen surveys did not indicate the size of their museum. Of those surveys that did indicate the size of the institution, only eight were large museums, twenty-nine were medium and seventy-four were small museums. The surveys were mailed on February 10, 2006. The last survey received arrived on April 5, 2006.

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[5] See Appendix A: Questionnaire

Human Subjects Protection

This survey was non compulsory. Respondents could refuse to complete or quit the survey at any time. There were no identifying markers in the results to link back to the respondents. The survey was anonymous. No racial or demographic data (such as age or income) was gathered. Serial numbers were used as identifiers on the questionnaire to determine which responses came from which institution to keep track of which museums had responded to the survey. No sensitive information regarding a particular institution or individual was requested, only opinions were surveyed. Participation was beneficial in that it added to the greater knowledge in the area of disaster planning. Completed questionnaires remain in the researcher's possession and will not be made publicly available.

A prospectus of this study was submitted to and approved by the Texas State University Institutional Review Board (IRB) on January 27, 2006[6]. Exempt status was awarded because no identifying or sensitive information was being shared. The following chapter reviews the results of the survey.

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[6] IRB certification number is 302688. http://www.txstate.edu/osp/Compliance/irb_index.htm

Chapter 5

Results

This chapter summarizes the results of the survey sent to museum directors across Texas. The survey gauges the opinions of Texas museum professionals regarding the current state of disaster planning. Overall, the disaster planning in Texas museums is in a poor state. Only one-third of museum directors believe that museums even have a disaster plan. Perhaps this lack of planning is due to the fact that many of the institutions in Texas are small and have limited resources. Of the 119 museums that completed the survey, 74 identified themselves as small[7]. These institutions are the last to recognize the need for disaster planning (Tremain 2004). The fallout from the destruction of Hurricanes Katrina and Rita provides a warning to all museums of losing their institution by neglecting to plan for emergencies.

The following results provide the current opinions of museum managers in Texas. These professionals were asked to respond regarding museums in Texas as a whole, not necessarily the state of disaster planning at their own institution. The survey was designed this way to protect sensitive information- especially in a post 9/11 world. It would be a possible security risk for museum managers to expose their institutions' disaster preparation.

Role of Management in Planning

The survey results for the category of Role of Management in Planning were mixed. Half (50%) of museum directors strongly agree or agree that management takes an active role in planning. Less than a quarter (23%) believe that disaster planning has been a priority

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[7] After analyzing the data from the survey, it was determined that there was no discernable difference in the opinions of museum directors form small, medium or large institutions. There were only 8 responses from large institutions- which was not a large enough sample. The results of small and medium institutions were very similar and therefore a formal comparison was not necessary.

in the past for museums in Texas. Disappointingly, only a third (33%) believe that Texas

museums develop a comprehensive disaster plan. If museums do not prepare for a disaster

by producing a disaster recovery plan, their chances of recovery are hindered. In addition,

only 17% of museum managers think that Texas museums sufficiently emphasize business

continuity planning. This proves that the ideal model developed in Chapter Three is relevant

to today's museum director. Previous models do not prioritize business continuity planning.

This low figure is due to lack of understanding of what continuity planning entails or that it

is an afterthought during the disaster planning process.

Table 5.1: Role of Management in Planning

Category	Question	N	% Strongly Agree/ Agree	% Strongly Disagree / Disagree	Mode
Management involvement	Museum managers in Texas take an active role in disaster planning.	118	50	27	Agree
	Texas museum managers have made disaster planning a priority in the past.	119	23	46	Disagree
Need for comprehensive disaster plan	Texas museums develop comprehensive disaster plans.	119	33	35	Neutral
Continuity planning	Texas museums put sufficient emphasis on business continuity planning.	110	17	44	Neutral

Threat Assessment

The results for the Threat Assessment portion of the survey are more encouraging.

Slightly less than half (48%) of museum directors believe that museum management analyze

the threat potential against their institution. Fifty-seven percent believe that museums

analyze the threat posed against the building and sixty-six percent believe museums asses the

threat posed against their collections. Interestingly, fewer respondents chose to answer that

museums do a general threat potential than a more specific threat assessment against the building or the collection. Less than half (45%) of those managers surveyed believe museums use a ranking system to create their threat assessment. The use of a ranking system streamlines the process for evacuation and recovery (Candee and Casagrande 1993, Upton and Pearson 1978). The results show that although museum directors believe that Texas museum management considers the threats posed against their institutions, it is not translating to the development of a comprehensive disaster plan.

Table 5.2: Threat Assessment

Category	Question	N	%Strongly Agree/ Agree	%Strongly Disagree/ Disagree	Mode
Likelihood of disasters in a particular area	Texas museums analyze the threat potential against their institution.	118	48	23	Agree
	Texas museums rank the likelihood of disasters for their area.	119	45	26	Agree
Threat assessment of building	Texas museums assess the threat posed against their building.	119	57	20	Agree
Threat assessment of collection	Texas museums assess the threat posed against their collections.	119	66	19	Agree

Personnel Organization

The results of the survey for the Personnel Organization component reveal a lack of commitment to organizing personnel prior to a disaster. Pre-disaster organization saves time once an event has occurred. Less than half (44%) of the museum directors believe that museums designate an emergency response coordinator. This means that many museums lack a person who is responsible for disaster planning. In a disaster, a museum will spend extra time and cause significant confusion while personnel determine their roles. Less than a

quarter of museum managers believe that museums form preplanned teams (24%) or have any organization in a disaster situation (24%).

Only 10% of museum directors believe that museums emphasize training drills and only 13% believe that museums actually perform training drills. Understandably it may be difficult to perform a training drill in a public place. It might require that paying visitors evacuate the building. They may become upset and never return. Nevertheless, there are drills that can be done with personnel only. Neither seem to be emphasized in Texas museums.

Table 5.3: Personnel Organization

Category	Question	N	% Strongly Agree/ Agree	% Strongly Disagree / Disagree	Mode
Establishing an emergency management coordinator	Texas museums designate someone as an emergency management coordinator.	119	44	28	Agree
Organizing teams and committees	Texas museums form preplanned teams before an emergency.	119	24	41	Neutral
	Texas museum personnel are appropriately organized in the event of disaster.	118	24	49	Disagree
Training and emergency drills	Texas museums emphasize emergency drills.	119	10	59	Disagree
	Texas museums enact emergency drills (i.e. evacuation of the building, fire drills, etc).	119	13	55	Disagree

Communication

Most museum directors do not believe that museum personnel in Texas would communicate effectively during a disaster. Only 40% of museum directors believe museum personnel would be effective in communicating with one another. Only 42% believed they would communicate effectively with the private sector, especially donors. A slim majority of museum directors (51%) believe that museum personnel could effectively communicate with

emergency responders. Either communication is not emphasized enough in disaster

preparedness literature or many museums do not believe that their personnel are effective

communicators. This may be related to the lack of personnel organization. When no one is

designated to take command, and no one designated to speak on behalf of the museum in

the event of a disaster, communication will be ineffective.

Table 5.4: Communication

Category	Question	N	%Strongly Agree/ Agree	%Strongly Disagree/ Disagree	Mode
Museum personnel	Texas museum personnel would communicate effectively in a disaster situation.	119	40	28	Agree
Outside emergency responders	Texas museums communicate effectively with emergency responders in a disaster situation.	119	51	19	Agree
Private sector and donors	Texas museums effectively communicate with the private sector, especially donors, in a disaster situation.	118	42	26	Agree

Inventory and Insurance

Only a third (35%) of museum directors believe that museums prepare a salvage list

for use in the event of an emergency. All museums have a registry of items in their

collection. Museums may erroneously use the registry in lieu of the salvage list. A salvage

list is different in that it prioritizes objects for evacuation during an emergency (Candee and

Casagrande 1993, 15). 42% of museum directors believe that museums carry an appropriate

amount of insurance. Insurance premiums are affected by the kind of a collection a museum

possesses, and the replacement value of its items. As explained in Chapter 3, insurance is

sometimes not an option on very valuable and one-of-a-kind items. However, insurance is

essential for a museum's infrastructure. A building can be repaired more quickly if it is

adequately insured.

Table 5.5: Inventory and Insurance

Category	Question	N	%Strongly Agree/ Agree	%Strongly Disagree/ Disagree	Mode
Collection inventory and salvage lists	Texas museums prepare salvage lists in the event of an emergency.	119	34	36	Neutral
Insurance coverage	Texas museums carry appropriate amounts of insurance and inventory their collection.	119	42	33	Agree

Collection Restoration

Collection Restoration was the most surprising category of the survey. A large majority of museum managers do not believe that museums can quickly restore damaged items, regardless of whether it is a painting, textile or historical item. Possibly, results may have been skewed due to the use of the word "quickly" in the survey. Several directors left unsolicited remarks on the survey that state that the restoration process is extremely slow. The ability to restore an item is not the concern, but rather the time that is required to complete the restoration. Another reason for these results is that most of the museum directors that were surveyed are heads of small institutions, which do not have in-house restoration specialists. Restoration is outsourced to experts and consultants. Outsourcing creates a time delay and hinders an objects' quick restoration. For small institutions, the temporary loss of an item to restoration is the only affordable option.

Table 5.6: Collection Restoration

Category	Question	N	%Strongly Agree/ Agree	%Strongly Disagree/ Disagree	Mode
Paintings	Texas museums have the ability to quickly restore any damaged items in a collection.	110	12	62	Disagree
	Texas museums have the ability to quickly restore a painting in the event of an emergency.	110	14	67	Disagree
Textiles	Texas museums have the ability to quickly restore a textile in the event of an emergency.	110	10	67	Disagree
Historical items	Texas museums have the ability to quickly restore historical items in the event of an emergency.	110	10	67	Disagree

Business Recovery

The results of the Business Recovery component reinforce the assertion that business recovery is not emphasized in current disaster planning. Less the a fifth (18%) of museum directors in Texas believe that museums are planning for financial recovery in the event of a disaster. Most managers think that museums are missing a plan to restore revenue after a disaster. The lack of financial planning could cause permanent closure. These results confirm the need for a business recovery and/or continuity plan as a section of a comprehensive disaster plan for a museum.

Slightly more museum directors (30%) believe that museums have a plan to recover their building in the event of an emergency. The building is a critical aspect of the overall business recovery of a museum. Another surprising statistic is that only 18% of museum directors believe that museums are aware of the range of government assistance available for disaster recovery. After the hurricanes, despite ample press coverage about FEMA and the Small Business Administration loan programs, managers assert that museums have not explored their options when it comes to government assistance.

Table 5.7: Business Recovery

Category	Question	N	%Strongly Agree/ Agree	%Strongly Disagree/ Disagree	Mode
Financial recovery	Texas museums are planning for the financial recovery of a museum in the event of a disaster.	110	18	54	Disagree
Building recovery	Texas museums have the appropriate plan to recover their building in the event of an emergency.	110	30	40	Neutral
Government assistance	Texas museums are aware of the range of governmental assistance available to them after a disaster.	110	18	53	Disagree

Chapter 6

Conclusion

The survey of museum directors is instructive since it confirms that comprehensive disaster planning is not a high priority for museums. Recent disasters such as 9/11, Hurricane Katrina and Hurricane Rita should convince museum directors to make disaster planning a necessary addition to museum administration. The following table offers an overall assessment of how prepared Texas museum are for a disaster. In addition, the table offers a list of recommendations for museums to help in the preparation of a comprehensive disaster plan. The recommendations are based on the perceived deficiencies in the current state of disaster planning in Texas museums. In the future, museums can use this table as a "checklist" when they create their disaster plan.

Table 6.1: List of Recommendations to Start a Comprehensive Disaster Plan

Ideal Model Component	Museum Director Assessment[8]	Recommendation for Improvement
Role of Management in Planning		
• Management involvement	Moderate	Managers resolve to make disaster planning a top priority in the next 6 months.
• Need for comprehensive disaster plan	Moderate	Museum associations offer workshops for institutions, especially small ones, to begin the disaster planning process.
• Continuity planning	Moderate	Keep a back-up of all files and essential information in an off-site storage area. This will make it easier to continue operation if there is a disruption.
Threat Assessment		
• Likelihood of disasters for a particular area	Moderate	Managers and disaster planning coordinator rank the likelihood of a disaster for their area- including both natural and man-made disasters.
• Threat assessment of building	Good	Managers continue to analyze the threat potential to their building. Use a ranking system

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[8] This assessment is based on the survey to museum directors. A "good" ranking is achieved by the strongly agree/ agree is over 50%. A "poor" ranking happens when the strongly disagree/ disagree is over 50%. If support was mixed or "neutral" was the mode, then the ranking is "moderate".

• Threat assessment of collection	Good	Managers continue analyze the threat potential of their collection. Use a ranking system.
Personnel Organization		
• Establishing emergency management coordinator	Moderate	Managers appoint a trusted employee to become the emergency management coordinator- a point person to organize the planning process.
• Organize teams and committees	Moderate	The emergency management coordinator organizes personnel into teams BEFORE a disaster occurs.
• Training and emergency drills	Poor	Emergency management coordinator holds regular training sessions and emergency drills with the teams.
Communication		
• Museum personnel	Moderate	Hold a training session that museum personnel role play as an exercise in determining the effectiveness of communication between employees. Develop a phone tree.
• Outside emergency responders	Good	Contact local, state and federal emergency responders. Develop a relationship BEFORE a disaster.
• Private sector and donors	Moderate	Establish a point person who will update the private sector, especially donors, with the progress of recovery after a disaster.
Inventory and Insurance		
• Collection inventory and salvage list	Moderate	Establish a salvage list that is separate from the museum registry. Prioritize the list to determine which objects can be evacuated first.
• Insurance coverage	Moderate	Evaluate current coverage. Meet with an insurance agent to determine if additional insurance is feasible. Make sure there is enough insurance coverage to protect the building.
Collection Restoration		
• Paintings	Poor	Keep a list of painting restoration specialists in the area. Develop a relationship BEFORE a disaster occurs.
• Textiles	Poor	Same process as paintings
• Historical items	Poor	Same process as paintings and textiles
Business Recovery		
• Financial recovery	Poor	Make sure there are off-site back up data of computer records and financial statements. This data is essential for the return of revenue from ticketing, membership and gift shop operations.
• Building recovery	Moderate	Assess insurance coverage. Have a list of all outside contractors that can help recover the building, i.e. construction, architects, HVAC specialists, cleaning crews, etc
• Government Assistance	Poor	Investigate possible avenues for government assistance. Keep a file offsite with forms and instructions for assistance.

The recommendations are only a beginning to developing a comprehensive disaster plan. Each museum director must research additional resources to create a plan that works for their particular institution[9]. Museum personnel must remember to include all aspects of a museum—the building, the people, the collection- an importantly, the revenue. Together, the museum will return to normal operations quickly, with minimal loss to objects and income.

Disaster planning is essential to preventing a museum from becoming disabled by permanent damage. The seven components-- role of management, threat assessment, personnel organization, communication, inventory and insurance, collection restoration and business recovery – together form a comprehensive disaster plan that protects museums from becoming a casualty to a natural or man-made catastrophe. Museums are an essential part of our culture and education. Their protection is a worth while effort. Planning now saves museums' money, time and hassle in the event of a disaster later. It may mean the difference between a short disruption and permanent closure.

[9] See Appendix A: References for additional reading on writing a disaster plan.

Appendix A: References

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Appendix B: Survey Cover Letter

May 16, 2006

100
El Paso Museum of Art
One Arts Festival Plaza, El Paso TX

Dear Sir or Madam:

I am a Masters of Public Administration candidate at Texas State University. As part of our education we are required to complete an Applied Research Project. My project is to study the ways in which museums prepare for and recover from emergency situations. I became interested in this subject while working as an intern at Bob Bullock Texas State History Museum. Part of my research will be to create a model disaster plan for museums. This plan will be different from previous plans because it will have an extra emphasis on business recovery, i.e. the ways in which museum can quickly regain revenue after a disaster. Another part of my research is to survey museum directors and curators on their opinions regarding disaster planning. My goal is to find out how high a priority disaster planning is for museums in Texas.

This survey is voluntary. I am not asking about your institution specifically but your opinions about museums in general. I respect the security precautions you must have to protect your museum. No specific information or identifying characteristics regarding your institution will be published or even asked for. My final paper will be available on the Texas State web page to read in the early summer (http://ecommons.txstate.edu/arp/). My advisor on this project is Dr. Patricia Shields at Texas State University, Department of Political Science. She can be reached at 512-245-2143 if you have any questions regarding the validity of this research.

This survey will only take a few minutes to fill out and I sincerely appreciate your opinions in this matter. Your participation will greatly enhance the viability of my research. A self-addressed stamped envelope is included to return the survey to me at my home in Austin. If you have any questions please feel free to call me at 512-215-2924 or email kp1142@txstate.edu.

Thank you for taking some time to assist in disaster planning research.

Sincerely,

Katherine Petersen
MPA candidate
Texas State University

Appendix C: Questionnaire

Disaster Preparedness and Recovery Questionnaire

Would you describe your museum as ____ Small, ____ Medium, or ____ Large?

1= Strongly Disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree

1. Museum managers in Texas take an active role in disaster planning.	1	2	3	4	5
2. Texas museum managers have made disaster planning a priority in the past.	1	2	3	4	5
3. Texas museums develop comprehensive disaster plans.	1	2	3	4	5
4. Texas museums analyze the threat potential against their institution.	1	2	3	4	5
5. Texas museums rank the likelihood of disasters for their area.	1	2	3	4	5
6. Texas museums assess the threat posed against their building.	1	2	3	4	5
7. Texas museums assess the threat posed against their collections.	1	2	3	4	5
8. Texas museums designate an employee as the emergency management coordinator.	1	2	3	4	5
9. Texas museums form preplanned teams before an emergency.	1	2	3	4	5
10. Texas museum personnel are appropriately organized in the event of disaster.	1	2	3	4	5
11. Texas museums emphasize emergency drills.	1	2	3	4	5
12. Texas museums enact emergency drills. (i.e. evacuation of the building, fire drills, etc.)	1	2	3	4	5
13. Texas museum personnel would communicate effectively in a disaster situation.	1	2	3	4	5
14. Texas museums would communicate effectively with emergency responders in a disaster situation.	1	2	3	4	5
15. Texas museums would effectively communicate with the private sector, especially donors, in a disaster situation.	1	2	3	4	5
16. Texas museums prepare salvage lists in the event of an emergency.	1	2	3	4	5

17. Texas museums carry appropriate amounts of insurance and inventory their collection.	1	2	3	4	5
18. Texas museums have the ability to quickly restore any damaged items in a collection in the event of an emergency.	1	2	3	4	5
19. Texas museums have the ability to quickly restore a painting in the event of an emergency.	1	2	3	4	5
20. Texas museums have the ability to quickly restore a textile in the event of an emergency.	1	2	3	4	5
21. Texas museums have the ability to quickly restore historical items in the event of an emergency.	1	2	3	4	5
22. Texas museums put sufficient emphasis on business continuity planning.	1	2	3	4	5
23. Texas museums are planning for the financial recovery of a museum in the event of a disaster.	1	2	3	4	5
24. Texas museums have the appropriate plan to recover their building in the event of an emergency.	1	2	3	4	5
25. Texas museums aware of the range of governmental assistance available to them after a disaster.	1	2	3	4	5

Appendix D: Frequency Distribution

Table D.1: Frequency Distribution Table

Question	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1 Museum managers in Texas take an active role in disaster planning.	118	6	26	27	42	17
2 Texas museum managers have made disaster planning a priority in the past.	119	10	45	37	24	3
3 Texas museums develop comprehensive disaster plans.	119	6	36	37	35	5
4 Texas museums analyze the threat potential against their institution.	118	4	24	33	44	13
5 Texas museums rank the likelihood of disasters for their area.	119	4	27	34	37	17
6 Texas museums assess the threat posed against their building.	119	3	20	28	45	23
7 Texas museums assess the threat posed against their collections.	119	3	19	18	49	30
8 Texas museums designate an employee as the emergency management coordinator.	119	11	23	33	38	14
9 Texas museums form preplanned teams before an emergency.	119	10	39	43	17	10
10 Texas museum personnel are appropriately organized in the event of disaster.	118	9	48	36	16	9
11 Texas museums emphasize emergency drills	119	18	52	37	8	4
12 Texas museums enact emergency drills. (i.e. evacuation of the building, fire drills, etc.)	119	18	48	37	12	4
13 Texas museum personnel would communicate effectively in a disaster situation.	119	4	30	38	39	8
14 Texas museums would communicate effectively with emergency responders in a disaster situation.	119	4	19	35	47	14
15 Texas museums would effectively communicate with the private sector, especially donors, in a disaster situation.	118	11	20	37	38	12
16 Texas museums prepare salvage lists in the event of an emergency.	119	13	30	36	31	9
17 Texas museums carry appropriate amounts of insurance and inventory their collection.	119	12	27	30	32	18
18 Texas museums have the ability to quickly restore any damaged items in a collection in the event of an emergency.	110	28	41	27	8	6
19 Texas museums have the ability to quickly restore a painting in the event of an emergency.	110	29	45	21	11	4

20 Texas museums have the ability to quickly restore a textile in the event of an emergency.	110	25	48	26	8	3
21 Texas museums have the ability to quickly restore historical items in the event of an emergency.	110	24	49	26	7	4
22 Texas museums put sufficient emphasis on business continuity planning.	110	10	38	43	17	2
23 Texas museums are planning for the financial recovery of a museum in the event of a disaster.	110	19	41	31	15	4
24 Texas museums have the appropriate plan to recover their building in the event of an emergency.	110	12	32	33	29	4
25 Texas museums aware of the range of governmental assistance available to them after a disaster.	110	21	37	33	16	3

Appendix E: Comments from Surveys

A few surveys were returned with unsolicited comments. Here are a few examples.

- We just suffered through Hurricane Rita, so your survey was timely for us. Each disaster presents its own sort of problems. You can never be fully prepared. Our big problem is loyalty to the institution. When people are trying to prepare their homes and families, the institution (for some) is no longer a high priority. Sad but true.
- I run the Museum Services Program for the Texas Historical Commission. We provide free workshops, consultations and information to small history museums in Texas. I visited several of the museums hit by Hurricane Rita last year.
- [This is regarding the collection restoration questions] Quickly restore does not make sense!
- I believe when Katrina hit—now ALL institutions want to be "disaster savvy", but before then "if it happens, it happens".
- Communicating with outside donors is not appropriate.
- It's largely resource-based and funding and resources for disaster planning are all but non-existent.
- I really wanted to more thoroughly answer your questions but I don't have info for Texas museums. Our organization is non-collecting and does not have a disaster plan.
- Many items are neutral because we've had to reflect after Katrina. We're moving from Disagree to Agree slowly but determinedly!
- Since recent events we have initiated these items. We had not in the past.