

# A Historical Overview of Disasters and the Crisis Field

**Priscilla Dass-Brailsford**

**H**urricane Katrina cut a wide swath of destruction across the Gulf Coast at the end of August 2005. In the span of 5 hours, the storm devastated approximately 90,000 square miles in the Gulf Coast areas (Alabama, Louisiana, and Mississippi) and displaced hundreds of thousands of people, leaving much of New Orleans under water for several weeks. The reconstruction process has taken several years at an estimated cost of \$81.2 billion (U.S.), making Hurricane Katrina one of the costliest natural disasters in U.S. history. However, U.S. cities have arisen from massive devastation before; the Great San Francisco Earthquake of 1906 and Hurricane Andrew in 1992 are a few examples of events that have challenged the resources of other cities in the past. In this chapter, several major disasters are discussed to provide a historical backdrop to the crisis and disaster field. These disasters offer important lessons that future disaster responders are urged to heed. Finally, this chapter provides an overview of the major agencies involved in disaster planning, management, and response.

## CHAPTER HIGHLIGHTS

- ✦ Provides a history of the evolution of the crisis and disaster field;
- ✦ Reviews in depth some of the worst disasters, both nationally and internationally in terms of the contributions made to the disaster field; and
- ✦ Describes the development of major disaster and crisis response organizations (e.g., American Red Cross, Federal Emergency Management Agency).

**BACKGROUND**

Disasters have occurred long before recorded history. For example, in approximately 1500 B.C., the Mediterranean Strogli island blew up after a tsunami nearly eradicated the Minoan civilization. The area is now called Santorini, and Plato referred to it as the site where the city of Atlantis disappeared under the waves (Crossley, 2005). In 3000 B.C., a major global paleo-climate event, of which little is known, appears to have affected sea-level vegetation and surface chemistry. It is speculated that this disaster may have been the flood recorded in the Old Testament of the Bible. About 65 million years ago, a space rock hit the Earth and wiped out dinosaurs and countless other animal species. Many other natural disasters occurred globally prior to Hurricane Katrina. Similar to Hurricane Katrina, they were cataclysmic events that reshaped government policy and captured the nation’s empathy for generations.

The disaster timeline lists some of the significant disasters that occurred in the world over the past century (see below). The lessons learned paved the way for major changes in the delivery of disaster and crisis services as we know it today.

These disasters are reviewed because of the impact they had in terms of loss of life and property damages, as well as the contribution they made in the development of the crisis and disaster field.

<i>Disaster Timeline</i>											
<i>Date</i>	1889	1900	1906	1925	1930s	1931	1935	1938	1942	1965	1969
<i>Event</i>	Johnstown Flood	Galveston Hurricane	San Francisco Earthquake	Tri-State Tornado	Dust Storms	Yellow River Floods	Labor Day Hurricane	Great New England Hurricane	Cocoanut Grove Nightclub Fire	Hurricane Betsy	Hurricane Camille
<i>Affected Area</i>	U.S. (PA)	U.S. (TX)	U.S. (CA)	U.S. (MS, IL, ID)	U.S. (OK, TX)	China	U.S. (FL)	U.S. (NY, RI, CT, MA, NH)	U.S. (MA)	Bahamas, U.S. (FL, LA)	U.S. (LA, MS, VA)
<i>Number of People Killed</i>	2,200	6,000	3,000+	695	65	1 to 4 million	405	720	492	75	250
<i>Property Damage</i>	\$10 million	\$30 million	\$400 million	\$1.4 billion	N/A	\$81.2 billion	\$6 million	\$4.7 billion	\$122,500	\$1 billion	\$1.12 billion
<i>What Did We Learn?</i>	Recovery time needed, especially for low-income communities	Improvement in disaster management necessary	Stricter building standards and codes necessary	Improvement in warning systems necessary	Importance of taking care of the land	Better construction of dykes, levees, and dams to prevent flooding of river	Improvement in communication needed	Improvement in dyke system necessary	Changes in fire codes needed; crisis services launched	Federal government became involved in levee construction	Improvement in hurricane readiness and interagency communication required

## The Great San Francisco Earthquake (1906)

On April 18, 1906, residents of San Francisco were awakened by an earthquake that would later devastate their city. The magnitude of the main tremor extended from 7.7 to 7.9 on the Richter scale, the result of a 296-mile rupture along the 800-mile San Andreas fault line that lies on the boundary between the Pacific and North American plates. During the earthquake, the ground west of the fault line moved northward. The point where the most extreme shift occurred measured 21 feet across. Seismologists estimated the speed of this rupture to have been 8,300 mph northwards and 6,300 mph southwards. Residents from Los Angeles to central Nevada reported feeling the effects of the earthquake, which was later rated 8.3 on the Richter scale, developed in 1935 to measure the magnitude of earthquakes.

The earthquake lasted approximately 1 minute but was a secondary concern to the destructive 4-day fire that followed. Broken water hydrants made fighting the fires a challenge, and the fire resulted in the destruction of almost 500 city blocks. Damages were estimated at \$400 million at the time; more than 225,000 people were left homeless, and the death toll was approximately 3,000. Scientists predict a 62% probability of a larger earthquake (6.7 or more in magnitude) occurring in the Bay Area in the next 30 years.

Many new developments in the disaster field occurred as a result of the San Francisco earthquake and efforts by the Californian governor George Pardee, who put

1970	1972	1972	1980	1987	1989	1992	1995	2001	2004	2005
Bhola cyclone	Hurricane Agnes	Buffalo Creek Disaster	Mt. St. Helens Volcano	Texas Tornado	Exxon Valdez Oil Spill	Hurricane Andrew	Kobe Earthquake	9/11 Terrorist Attacks	Indian Ocean Tsunami	Hurricane Katrina
Pakistan, Bangladesh, and India	U.S. (FL, PA)	U.S. (VA)	U.S. (WA)	U.S. (TX)	U.S. (AK)	U.S. (FL, LA)	Japan	U.S. (NY, D.C., PA)	Indonesia	U.S. (LA, MS)
500,000	48	125	57	30	500,000 seabirds and other animals	26	6,279	3,000+	126,000	1,800+
\$1.5 billion	\$3.1 billion	\$50 million	\$1.1 billion	\$1.3 million	\$5 billion punitive damages	\$25 billion	\$100 billion	\$38 billion	Unknown	\$80 billion
Improvement in early warning systems needed	Improvement in early warning system needed; media coverage helpful	Need to address delayed onset of posttraumatic stress disorder	Relocation of population to safer areas necessary	Multilanguage warning systems necessary	Attention to loss of natural resources and economic and cultural loss	More advanced warning systems	Disaster preparation and response strategies lacking	Better airport security	Improved agency coordination beneficial	Restore wetlands and improve levees

together a task force of renowned scientists to investigate the causes of the earthquake. Four years after the disaster, the Lawson (1908/1969) report, which laid the foundation for what we know about earthquakes today, was produced. The exhaustive report was favorably received upon its publication and continues to be highly regarded by seismologists, geologists, and engineers concerned with earthquake damage to buildings; the report stands as a milestone in the development of understanding earthquake mode of action and origin.

Thus, the study of seismology grew rapidly after the San Francisco earthquake and the data collected after the catastrophe transformed the field into a respected science that would prove invaluable in predicting future earthquakes and understanding their impact; the 1906 disaster marked the birth of earthquake science in the United States.

Given the exorbitant financial costs incurred after the disaster, earthquake preparedness became a major priority for city officials and local businesses throughout the city of San Francisco. Unfortunately, in their haste to restore economic and pre-disaster functioning, more emphasis was placed on rebuilding quickly rather than securely. As a result, building codes were not modified to accommodate the possibility of a similar or worse earthquake occurring. Despite the Bay Area's vulnerability to earthquakes, thousands of homes today do not meet current earthquake safety standards, making the city no less safe today than it was in 1906. In fact, its vulnerability is greater for several reasons: It is situated in the proximity of two active fault systems, its population has doubled to almost 800,000, and its economy ranks as the 21st largest in the world. As a result, if a major earthquake occurred today, a larger number of structures would collapse rather than sustain damage; this would increase the potential human death toll tremendously.

### **Hurricane Betsy (1965)**

Hurricane Betsy was the first hurricane in the United States to cost a billion dollars in estimated damages, earning it the infamous title "Billion Dollar Betsy." The hurricane gained momentum as it came over the Florida Keys on September 7, 1965, emerging as a Category 3 storm after crossing Florida Bay and entering the Gulf of Mexico. It came ashore at Grand Isle, south of New Orleans, where it caused immense property damage before traveling upriver, triggering a 10-foot rise in the Mississippi River. The hurricane continued to move in a northwesterly direction, grew into a Category 4 storm with 155 mph winds, and caused major storm surges in Lake Pontchartrain, north of the city of New Orleans. These high storm surges caused an overtopping of the levee system so that water reached the eaves of several houses in the Crescent City. Hurricane Betsy was the first hurricane to directly hit New Orleans. The hurricane killed 76 residents in New Orleans, most of whom lived in the Ninth Ward area where water reached the highest level. Extreme flooding also occurred in the St. Bernard's Parish neighborhood of New Orleans. Sadly, history repeated itself many years later in 2005, when Hurricane Katrina wreaked similar devastation in both these neighborhoods of New Orleans.

At the time of the disaster, the federal government was minimally involved in the construction of levees and floodwalls; this responsibility fell within the purview of local government agencies. However, the devastation caused by Hurricane Betsy prompted the

federal government to become more actively involved in disaster management. The U.S. Army Corp of Engineers was authorized to build 16-foot-high levees to protect New Orleans from future disasters, even though it was not clear whether such levees would sufficiently protect the city. That question was answered with alarming clarity when Hurricane Katrina washed ashore in 2005.

Although the U.S. Army Corp of Engineers has overseen the construction of millions of dollars of federal hurricane protection projects in New Orleans, parts of the metropolitan areas of New Orleans do not meet federal flood protection standards. Budgetary constraints have limited the Corp's ability to construct and repair constantly sinking levees, while the city's vulnerability to flooding has dramatically increased in recent years. The construction of 120 miles of levees and floodwalls, initiated before Hurricane Katrina and costing approximately \$740 million were predicted to provide more than \$11 billion in storm damage reduction benefits. Since Hurricane Katrina, the cost of this project has risen to \$2 billion.

## Hurricane Camille (1969)

As a Category 5 hurricane, Camille was recorded as one of the strongest and most intense storms to make landfall in the United States. Unlike most hurricanes, it struck at its greatest intensity after entering the Gulf Coast from the Caribbean Sea on August 16, 1969. Hurricane Camille first made landfall at the mouth of the Mississippi River on August 17, accompanied by 200-mph winds. The devastation in the southern Mississippi region was astounding; property and other building structures from Ansley to Biloxi completely disappeared under the storm's wrath, and only foundation slabs remained as reminders of where buildings had once existed.

Hurricane Camille's 22.6-foot tidal surges were the highest recorded in U.S. history by the Army Corp of Engineers. As the hurricane moved inland into the southeastern states, the intensity of the storm weakened, but flooding increased and roads, bridges, and buildings were washed away. Devastating flash floods and landslides along the Blue Ridge Mountains destroyed many small communities and caused more than 100 deaths in the states of Virginia and Tennessee. Overall, the best estimate of the number killed by the hurricane was 255 persons. About 50 to 75 people were never found, and the total damages from the storm were estimated at \$4.2 billion.

Pielke and Pielke (1997) present two important lessons that Hurricane Camille delivered in terms of testing the nation's level of disaster preparedness and identifying areas for improvement. First, they indicate that hurricane preparedness should be viewed as the "cost of doing business." Waiting for a storm to occur to demonstrate a city's level of preparedness is futile. When a hurricane makes landfall, it results in extreme disruption; communication, power, transportation, and other necessary infrastructures are destroyed or malfunction. Second, decisions made under disaster conditions have to be made quickly; therefore, advanced planning is critical and establishing relationships and other important linkages prior to the disaster supports this goal. Decisions can then be made quickly, based on prior discussions and long-standing relationships. With Camille, coordination between government agencies and state and local officials was enhanced because of such pre-existing plans.

## **Hurricane Agnes (1972)**

Hurricane Agnes blew across the Florida panhandle on June 19, 1972, and scurried up the Atlantic coast into Pennsylvania on June 22, 1972. Although only a Category 1 hurricane when it hit Florida, the rainfall produced by the storm made it more destructive than previous hurricanes. At the time, it was identified as the costliest disaster in U.S. history. Twelve states were devastated before the hurricane made landfall in Pennsylvania, where it became known as Pennsylvania's worst disaster: Forty-eight deaths occurred in the state; 222,000 residents became homeless; and damages were estimated at \$2.1 billion. The overall estimated damages from the storm were \$3.1 billion and 117 people were killed.

The hurricane produced 18 inches of rain over 2 days, and the subsequent flooding caused the evacuation of entire towns. A bold prediction by the National Weather Service in Harrisburg, Pennsylvania, that floodwaters would overtop the 3-foot-high levees that were built in 1936 around Wilkes-Barre and Scranton, resulted in an orderly evacuation of 100,000 people; this ultimately saved many lives. There were many similarities between Hurricanes Agnes and Katrina: The rushing waters of Agnes tore out a section of a cemetery near Wilkes-Barre, causing 2,000 caskets to be washed away and leaving body parts strewn in residential areas. Returning residents found 5-foot-high watermarks above the first-floor windows of their homes. Cars had floated away and garbage and debris littered the streets. Although advanced, early warning systems were not available at the time, extensive media coverage played a major and supportive role in preparing the public for an effective evacuation.

When Vice President Agnew visited the hurricane-affected area 10 days after the storm had made landfall, disaster victims were still waiting in line for temporary housing at Red Cross shelters. Thousands of disaster victims continued to live in federal trailers a year later. In addition, there were major communication gaps between state and federal agencies of government about which expenses would be reimbursed by the federal government (Miskel, 2006). First responders and Red Cross volunteers reported a similar situation developing in the Gulf Coast after Hurricane Katrina. Much blame was placed on people who did not evacuate fast enough, although they had just a few hours of advance warning. Today, improved technology in advance disaster warning systems provides at least 12 hours' notice. However, despite this advanced warning capability, 33 years later, survivors of Hurricane Katrina faced a similar situation to the survivors of Hurricane Agnes.

## **The Texas Tornado (1987)**

On May 22, 1987, a violent, multiple-vortex tornado, with winds of 207 to 260 miles per hour devastated Saragosa, Texas, a community of approximately 5,200 people in southwest Texas. The tornado inflicted widespread damage throughout the town. The worst damage occurred in residential and business areas where property and other building structures were completely destroyed. Thirty people were killed and 131 injured. Among the destroyed buildings was a community hall in which about 80 people had gathered for a preschool graduation ceremony; the disaster took 22 lives, and approximately 60 people were injured inside the hall (Centers for Disease Control and Prevention, 1988).

This tornado disaster raised several important issues about general tornado and disaster preparedness (National Academy of Sciences, 1987). First, providing a warning message is

an integral part of overall disaster preparedness; such warnings should be broadcast in languages that can be understood by all the residents who live in high-risk areas. For example, because Saratoga, Texas, had a large bilingual Latino population at the time of the disaster, warnings would have ideally been broadcast in both English and Spanish. Second, appropriate actions should include plans for coordination with the news media and local officials, training storm spotters and developing public awareness efforts. Third, groups with mobile communications capability, such as the police and fire departments, highway patrols, and amateur radio operators, play a crucial role in disaster management and should be involved as early as possible. Fourth, establishing surveillance systems to assess and improve preparedness efficiency is fundamental to disaster preparedness. Fifth, potential shelters should be identified and evaluated for capacity and the services that they can provide prior to a disaster. Finally, follow-up investigations conducted in the aftermath of natural disasters are invaluable in the information they can provide to improve future disaster preparation.

In addition, the Texas Tornado provided significant lessons on the importance of cultural competency when responding to disasters. For example, a study conducted among African American and White elderly survivors in the affected area found that both groups showed psychosocial improvement sooner than younger survivors of the disaster (Bolin & Klenow, 1988). However, there was a large discrepancy between the recovery rates of elderly African American and White residents, which the researchers attributed to social class differences. The African American elderly occupied a lower socioeconomic status than the White elderly, and a lack of resources prevented some of them from evacuating quickly, maintaining a pre-disaster level of functioning and making it difficult, if not impossible, to repair or rebuild their homes after the disaster.

Moreover, African American residents were most vulnerable to repeated dislocation, and multiple moves to temporary housing predicted lower recovery rates. In contrast familial factors did not play a major role nor did they affect the recovery of elderly Whites, because most of them lived on their own, but were important for older African Americans, especially those who lived with their children or extended family; separation from family members thus became an additional hardship. Clearly, the Texas Tornado provided valuable insight on how to best support the African American elderly in the aftermath of disasters. Sadly, these lessons were not heeded after Hurricane Katrina as African American elderly were separated from their families and dispersed to different states. It would take months before they were finally reunited with their families.

### **Buffalo Creek Disaster (1972)**

On February 26, 1972, a rain-soaked impoundment dam of the Buffalo Creek Coal Company collapsed in Logan County, Virginia, pouring 138 million gallons of black wastewater down the narrow hollow. By the time the water subsided at the Guyandotte River, 125 persons were dead, 1,000 were injured, and 500 homes were completely demolished. Property damage exceeded \$50 million, and the catastrophe caused immense human suffering.

Two years after the dam collapsed, 381 plaintiffs who were involved in a lawsuit participated in a study that produced interesting findings; African Americans who experienced fewer stressors, less property damage, and no fatalities had less disaster-related impairment (Gleser, Green, & Winger, 1981). In addition, African American men fared psychologically

and emotionally better than their White counterparts; this was attributed to the leading role they played in organizing lawsuits and other community activities following the disaster. However, a follow-up study 14 years later showed a remarkable change in the original findings (Green et al., 1990). Most specifically, 11 % of the participants who did not have post-traumatic stress disorder (PTSD) in the initial study were showing PTSD symptoms 2 years later; the only variable that accounted for the delayed onset of these symptoms was race. The researchers concluded that as time passed, prejudicial attitudes toward African Americans re-emerged and their risk for PTSD reappeared. This study demonstrates the importance of being attentive to social and ecological factors when formulating support services and understanding how to best help in a culturally competent manner after disasters.

### **Exxon Valdez Oil Spill (1989)**

On March 24, 1989, the oil tanker Exxon Valdez departed Alaska for the state of Washington. At about midnight, it struck a reef and became grounded. According to official reports, the ship that was carrying 53.1 million gallons of oil spilled 10.8 million gallons of its contents in Prince William Sound, Alaska. It is considered one of the most devastating man-made environmental disasters to occur at sea.

A study conducted among 600 community residents (both native and nonnative participants) found that exposure to the disaster resulted in a decline in social relationships; an increase in health problems, substance abuse, and domestic violence; and a decline in subsistence activities (Palinkas, Downs, Patterson, & Russell, 1993). However, Alaskan Natives had a higher risk (two or three times higher) for PTSD and generalized anxiety disorders because, for them, the loss of natural resources was not only economic but also cultural. As a result of the environmental damage, they lost an important mechanism to transmit traditional values and culture, the core of Native identity, ideology, and social organization to the next generation (Green, 1996). Similarly, many families affected by Hurricane Katrina had lived in the Crescent City for multiple generations and many survivors reported that Hurricane Katrina did not destroy their homes but their cultural and historical roots. An awareness of the cultural meaning that losses may hold for survivors is integral to helping and supporting their recovery.

### **Disasters Beyond U.S. Shores**

#### **The Kobe Earthquake Disaster (1995)**

The Kobe earthquake, which occurred on January 17, 1995, was the most devastating natural disaster to strike Japan in 72 years. The earthquake measured 7.0 on the Japanese scale and killed 6,279 people. The earthquake occurred in an area where seismic hazards were not of major concern; disaster preparedness was thus not a high priority for residents in the area. Nearly 90 % of the deaths occurred as a result of collapsed buildings. Direct physical damage from the earthquake exceeded \$100 billion (Chang, 1996). The number of persons killed and the lack of preparedness daunted first responders.

Many deaths and business disruption could have been reduced if the threat had been recognized earlier and adequate preparations made. The Kobe disaster brought businesses to



a standstill; all steel mills, the area's leading industry, were temporarily shut down. Seven months after the earthquake, a Kobe Chamber of Commerce survey revealed that 40% of small shops that closed due to the earthquake remained closed because many business owners could not afford to repair their buildings. Several lessons can be inferred from this disaster and applied to U.S. disaster preparedness efforts. First, the disaster underscored the importance of disaster preparedness and response planning. Second, linkages among agencies at the federal, state, and local levels are salient and should be established in advance of disasters. Third, preparedness strategies such as comprehensive community response plans, mutual aid agreements, and memoranda of understanding should be developed in advance. Drills and exercises should be conducted on a regular basis. Fourth, public-private sector collaboration, particularly with key crisis-relevant organizations such as lifeline service providers, should be established as early as possible. Fifth, developing strategies that allow for the restoration of transportation system, manufacturing, and other commercial and economic activities to reduce social and economic challenges is critical. Sixth, devising plans for providing short-term, long-term, and permanent housing for large numbers of displaced residents is useful in reducing individual and family stress. Finally, preparedness initiatives should be attentive to the unique challenges that each catastrophic event presents.

### **The Indian Ocean Tsunami (2004)**

An earthquake measuring 9.0 on the Richter scale arose out of the Indian Ocean to strike the northwest coast of Indonesia on December 26, 2004. The earthquake's seismic shock generated a tsunami that rushed onto the shores of surrounding countries. The path of destruction wreaked by the tsunami resembled a nuclear disaster. Banda Aceh (Indonesia) was the hardest hit. In a matter of minutes, 126,000 people were killed and 93,000 were reported missing. This disaster required an international response and ranks globally among the most destructive disasters in terms of financial aid and humanitarian assistance provided.

A UNICEF (2007) report provides several guidelines on improving humanitarian efforts after disasters. The report indicated that several activities initiated at the time of the tsunami resulted in lasting improvements and provided a model for future interventions: Partnerships were expanded between UN agencies, the private sector, and the military; funding was timely and abundant; the global corporate trigger mechanism allowed for sufficient supplies, fundraising, and deployment of staff; and administratively, efficient monthly tracking and twice-yearly reports generated a rigorous schedule of audits and evaluations. Information was widely shared through reports to donors, public UNICEF reports, and the posting of evaluations and information on the UNICEF Web site.

However, the report also identified several shortcomings. These included more effective coordination and partnership to reach all who were affected by disasters; communication of the knowledge and skills needed to identify warning signs so that people can better prepare and cope with disasters; expansion of emergency surge capacity, including strengthening of staff capacity and overall preparedness; delivery of appropriate supplies in a more timely fashion; improvement in emergency supplies and reliable information to target the most vulnerable people; greater accountability to stakeholders; and adequate funding and adaptable financial and administrative procedures to allow for rapid response to emergencies.

In addition, a report by *Science & Technology* (2004) outlined several important guidelines to prepare for future tsunamis. First, there is a need for effective tsunami detection, forecasting and warning, advanced sensing equipment, rapid data analysis, and effective warning broadcast systems that provide clear instruction and reach everyone at risk. Second, there should be emergency communication systems and programs to educate and inform the public of the threat of tsunami hazards for all at-risk communities, not just those that have experienced tsunami threats in the past. Third, it is important to develop and adopt a comprehensive all-hazards plan that is integrated, action based, and capable of addressing all types of hazards and vulnerabilities. Finally, international efforts to reduce the threat of tsunamis and other hazards should strive to address both national and regional challenges. Thus, all systems and infrastructures designed to help in the detection, warning, and response to tsunamis and other hazards should promote international, national, and regional cooperation and collaboration.

As a result of the number of catastrophes that people all over the world have faced through the years, the crisis and disaster field has grown and organizations have been developed to provide assistance in the aftermath of crises and disasters. The next section addresses the evolution of the disaster field and the organizations that provide support. Except for the Federal Emergency Management Agency (FEMA), which is a federal organization, most disaster organizations depend on public support and the goodwill of their volunteers.

---

## **HISTORY AND EVOLUTION OF CRISIS AND DISASTER RESPONSE SERVICES**

---

At the turn of the 20th century, formal mental health services and crisis services were nonexistent. The first crisis service was a suicide hotline that was established in San Francisco in 1902 and a suicide prevention program (National Save a Life League) that began in New York City in 1906. The formal beginnings of crisis and disaster responding in the United States have often been attributed to the Cocoanut Grove fire and the work of Lindemann (1944) who treated many of the survivors of the fire.

In November 1942, a huge fire occurred at the Cocoanut Grove Night Club in Boston, a building with a licensed capacity of 500 people, but which held about 1,000 people on the night of the fire. It took about 15 minutes for the fire to turn the Cocoanut Grove nightclub into an inferno. With many of the 1,000 partygoers trapped inside, the death toll quickly reached 492 while another 166 were injured, making it the worst nightclub fire in history. The devastating fire prompted the strengthening of fire code regulations.

Lindemann (1944), from his work with survivors, identified common emotional reactions that he called "normal grief reactions." These reactions included a preoccupation with victims killed in the fire, identification with the deceased, strong feelings of guilt and anger, and various other somatic complaints. At about the same time, Caplan, who had also treated many of the survivors of the Cocoanut Grove fire, became interested in what constituted a crisis event. Parad and Caplan (1960) defined a crisis as occurring when individuals face insurmountable obstacles that overwhelm their usual and customary methods of problem solving; these challenges contribute to feelings of helplessness, and as psychological

resources are quickly depleted, tensions mount and unresolved past issues are triggered and become prominent. Caplan is credited with the development of crisis theory as we know it today.

The follow-up services provided to survivors of the Cocoanut Grove fire were a catalyst in shifting popular thinking from long-term care to the benefits of short-term interventions. Caplan (1964) found that early and short-term interventions were most beneficial to disaster survivors. Such interventions helped survivors resolve the crisis and sometimes even helped them function at higher levels than before the crisis occurred.

In addition, Lindemann (1944) proposed that clergy and other professionals should offer grief services after a disaster; prior to this, only psychiatrists provided services to those suffering from anxiety and depression. Later, both Caplan and Lindemann collaborated to establish the Wellesley Project in Massachusetts, a community mental health program for individuals suffering from traumatic events. The precursor to using volunteers in crisis intervention and disaster services was a result of their inclusion of paraprofessionals in the Wellesley Project.

Another important change that shaped crisis interventions as practiced in the United States was the passing of the Community Mental Health Centers Act in 1963, which led to the establishment of community mental health centers that were more accessible to residents. A major result of this legislation was the development of the 24-hour emergency service that still exists today. Volunteering in a crisis has become the norm for mental health professionals and others interested in humanitarian assistance. This involves affiliation with private or federal organizations that play a leading role in providing immediate and effective services to people who are affected by a disaster.

---

## HISTORY AND EVOLUTION OF THE AMERICAN RED CROSS

---

The founding of the American Red Cross in 1881 is attributed to Clara Barton, who earned the nickname “Angel of the Battlefield” during the American Civil War when, as a nurse, she rendered support to wounded soldiers. After the war, she lobbied for the successful establishment of the American Red Cross, modeled after the International Red Cross, which was founded in Switzerland in 1863.

In 1900, the American Red Cross obtained a congressional charter that mandated the organization to fulfill the provisions of the Geneva Convention: aiding the wounded during war, providing communication between family members and members of the U.S. military, and administering relief to those affected by disasters. The Red Cross emblem (a red cross on a white background) has become representative of help and relief in times of crisis. However, the Red Cross is not federally funded but an independent charitable organization that acts at both national and international levels and is supported through public funding. Nonetheless, when disasters occur, the Red Cross is given the responsibility of receiving and dispersing federal funds to disaster survivors.

In the decade following its inception, the American Red Cross responded to several national disasters. It was severely tested in World War I when excessive demands for its services caused an increase in the number of Red Cross chapters and volunteers. The

American Red Cross sent thousands of nurses overseas and helped on the home front by establishing hospitals for veterans, delivering care packages, organizing ambulances, and training dogs to search for the wounded. In World War II, it played a similar role and developed a blood collection service to aid the wounded, a legacy that flourishes today as the Red Cross Blood Bank.

The American Red Cross continues to be an important organization that offers aid to millions of people affected by crises and disasters. It played a key role in providing food and shelter for survivors of Hurricane Katrina. By working with local medical facilities in areas unaffected by the disaster, the Red Cross supported the needs of those requiring medical assistance. Another important responsibility of the Red Cross was the distribution of FEMA checks to individuals and families affected by Hurricane Katrina.

---

## **HISTORY AND EVOLUTION OF THE SALVATION ARMY**

---

The Salvation Army, which was chartered in the United States in 1899, is an organization that provides emergency services to individuals and communities affected by disasters and other catastrophic events. The Galveston Hurricane of 1900 was the first major disaster that the Salvation Army responded to in the United States. The Salvation Army has since responded to thousands of disasters across the United States, honoring a century-old commitment to serving those in need. Similarly, in 1906, when the San Francisco earthquake struck, the Salvation Army played a prominent role in setting up feeding and sheltering stations.

In 2001, the Salvation Army, with its mobile canteens, counselors, and thousands of volunteers, played a major role in providing food services at Ground Zero in New York after the 9/11 terrorist attacks on the World Trade Center. The Salvation Army's efforts at Ground Zero focused on the provision of mobile canteens (feeding units). In addition, Salvation Army counselors provided support and comfort to rescue and recovery personnel who worked under challenging and painful conditions and chaplains prayed for firefighters and other responders as they recovered the bodies of victims. By December 2001, the entire feeding operation at Ground Zero was turned over to the Salvation Army; their operations moved into a 35,000-square-foot tent owned by the Environmental Protection Agency, and it earned the nickname "The Taj Mahal" because of its imposing presence. It was a sanctuary for workers, a place where they could get hot meals and temporarily escape the anxiety and challenges of recovery work. Volunteers and Salvation Army personnel from around the country helped make the "tent" a place of comfort and consolation for rescue personnel and first responders.

---

## **THE NATIONAL ORGANIZATION FOR VICTIM ASSISTANCE (NOVA)**

---

NOVA was founded in 1975 as a nonprofit organization working on behalf of victims of crime and disaster, guided by four purposes: to serve as a national advocate for victim rights and services, to provide direct services to victims, to provide educational resources, and to support both victims and victim assistance professionals. NOVA is the umbrella organization to

more than 8,000 victim service-providing agencies in the United States and its National Crisis Response Team of trained crisis responders that responds rapidly to disasters. In addition, NOVA's specialized group of trainers and crisis interveners is always available to provide crisis training to communities in need.

## HISTORY AND EVOLUTION OF FEMA

As a federal organization, FEMA is mandated to coordinate the federal government's efforts in preparing, preventing, mitigating, responding, and recovering from all domestic disasters. The Congressional Act of 1803, besides being the first disaster legislation, led to the formation of FEMA after a New Hampshire town was affected by an extensive fire.

A flurry of disasters in the 1960s and 1970s (Hurricane Carla in 1962, Hurricane Betsy in 1965, Hurricane Camille in 1969, Hurricane Agnes in 1972, the Alaskan Earthquake of 1964, and the San Fernando Earthquake in Southern California in 1971) prompted legislation that required greater cooperation between federal agencies through the Disaster Relief Act that was passed in 1974. The legislation authorized the sitting president to declare a disaster and coordinate activities. Through an executive order in 1979, President Carter merged many of the separate disaster-related responsibilities of the federal government into FEMA. The new agency was faced with many unusual challenges in its first years: the contamination of Love Canal, the Cuban refugee crisis, and the accident at the Three Mile Island nuclear power plant. Later, the Loma Prieta Earthquake (1989) and Hurricane Andrew (1992) drew public attention to the role of FEMA.

As a result of the terrorist attacks on September 11th, national preparedness and homeland security became a primary focus for FEMA. The Office of Homeland Security was established to coordinate activities with the Office of National Preparedness so that the nation's first responders were trained and equipped to deal with weapons of mass destruction. In addition, FEMA dispersed funds to help communities establish disaster and crisis protocols.

In 2003, FEMA, together with 22 other federal agencies, became a part of the Department of Homeland Security. The new department was established to provide a coordinated approach to national security in the aftermath of emergencies and disasters, primarily to prepare the nation should disasters occur, and to effectively manage recovery efforts. FEMA's mandate is to work in partnership with other organizations that are part of the national emergency management system, including state and local emergency management agencies, other federal agencies, and the American Red Cross.

Typically FEMA's involvement in a disaster begins after a presidential declaration of a major disaster and at the request of a state governor. Four years after the traumatic consequences of September 11, 2001, Hurricane Katrina in 2005 delivered an unwelcome aftershock to U.S. citizens and tested FEMA's role in unprecedented ways. At a time when homeland security was at the forefront of political dialogue, the federal government's inability to provide timely humanitarian assistance to the citizens of New Orleans and the Gulf Coast raised doubts about the strength and reliability of U.S. disaster readiness (Mohr & Powell, 2007). This was deeply unsettling to both the American public and the displaced residents of Hurricane Katrina, calling into question the commitment to collective responsibility.

It came as no surprise when President Bush changed the directorship of the agency as the disaster unfolded in the Gulf Coast. On October 4, 2006, the Post-Katrina Emergency Reform Act was signed into law; this legislation significantly reorganized FEMA, providing it with a new authority and a more vigorous preparedness mission.

## **PRACTICAL IMPLICATIONS**

- Coordination, collaboration, and partnership between local, state, and federal organizations should be established before disasters.
- Hurricane preparedness should be viewed as integral; drills and other disaster exercises should be practiced with regularity.
- Reconstruction and restoration efforts should be attentive to reducing future catastrophes.
- Warning messages are a critical part of disaster preparedness and should be broadcast in languages that can be understood by all residents.
- Cultural competency is an important aspect in first responder training.
- The role of cultural, contextual, and ecological factors cannot be minimized in recovery efforts.
- Preparedness initiatives should be attentive to the unique challenges of each catastrophic event.
- Disaster plans should include the provision of short-term, long-term, and permanent housing for displaced residents.
- Potential shelters should be identified and evaluated prior to disasters.
- Family integrity should always be considered in relocation plans.

## **CONCLUSION**

Disasters often strike with little or no warning, but are capable of major death and destruction. They often have long-lasting and large-scale economic, political, and psychological consequences and become an entrenched part of the history of affected areas (e.g., we cannot think about New Orleans without remembering the hurricane that damaged the city in 2005). Although disasters are in many ways unpredictable, modern technology and advanced tracking systems can reduce their unpredictability. In addition, learning lessons from past disasters can help in managing and reducing the detrimental effects of future disasters.

This chapter outlined several disasters and the lessons that each of them offered. The hope is that those involved in crisis and disaster response work will learn from the past. Disasters are inevitable; it is therefore important to turn the knowledge that has been gained from research and experience into practical action. Crisis and disaster studies is a new area of research and teaching, and very few academic programs offer courses in this important field of study. One way to practically apply what has been learned is by preparing future generations; devoting increased academic attention in research and training in the field of disaster studies is a mechanism through which this can be achieved.

---

## REFERENCES

---

- Bolin, R., & Klenow, D. J. (1988). Older people in disaster: A comparison of Black and White victims. *International Journal on Aging and Human Development*, 26, 29–43.
- Caplan, G. (1964). *Principles of preventative psychiatry*. New York: Basic Books.
- Centers for Disease Control and Prevention. (1988). Tornado disaster: Texas. *Morbidity and Mortality Weekly Report*, 37(30), 454–456.
- Chang, S. E. (1996, November). *Regional economic impact of the January 17, 1995 Kobe, Japan earthquake*. Paper presented at the 43rd North American meeting of the Regional Science Association International, Washington, DC.
- Crossley, D. (2005). *10 worst natural disasters*. Retrieved December 2, 2008, from <http://www.eas.slu.edu/hazards.html>
- Gleser, G., Green, B., & Winger, C. (1981). *Prolonged psychosocial effects of disaster*. New York: Academic Press.
- Green, B. L. (1996). Cross-national and ethnocultural issues in disaster research. In A. J. Marsella (Ed.), *Ethnocultural aspects of posttraumatic stress disorder: Issues, research, and clinical applications* (pp. 341–361). Washington, DC: American Psychological Association.
- Green, B. L., Lindy, J., Grace, M., Gleser, G., Leonard, A., Korol, M., et al. (1990). Buffalo Creek survivors in the second decade: Stability of stress symptoms. *American Journal of Orthopsychiatry*, 60, 43–54.
- Lawson, A. C. (1969). *The California Earthquake of April 18, 1906* (Report of the State Earthquake Investigation Commission). Washington, DC: Carnegie Institution. (Original work published 1908)
- Lindemann, E. (1944). Symptomatology and management of acute grief. *American Journal of Psychiatry*, 101, 141–148.
- Miskel, J. F. (2006). *Disaster response and homeland security: What works, what doesn't*. Westport, CT: Praeger Security International.
- Mohr, C. L., & Powell, L. N. (2007). Through the eye of Katrina: The past as prologue? *The Journal of American History*, 94, 692–695.
- National Academy of Sciences. (1987). *Saragosa, Texas, Tornado May 22, 1987: An evaluation of the warning system*. Washington, DC: National Academy Press.
- Palinkas, L., Downs, M., Patterson, J., & Russell, J. (1993). Social, cultural and psychological impacts of the Exxon Valdez oil spill. *Human Organization*, 52, 1–13.
- Parad, H. J., & Caplan, G. (1960). A framework for studying families in crisis. *Social Work*, 5(3), 3–15.
- Pielke, R. A., Jr., & Pielke, R. A., Sr. (1997). *Hurricanes: Their nature and impacts on society*. New York: John Wiley.
- Science & Technology. (2004). *Lessons learned from the December 26, 2004 Indian Ocean disaster*. Retrieved August 12, 2008, from <http://www.sdr.gov/Tsunami%20Science%20and%20Technology%20Lessons%20Learned%202005-1130%20FINAL.pdf>
- UNICEF. (2007). *Humanitarian action report 2008—Tsunami response 2004 Indian Ocean earthquake and tsunami: Lessons learned*. Retrieved August 20, 2008, from [http://www.unicef.org/har08/index\\_tsunami.html](http://www.unicef.org/har08/index_tsunami.html)

