FROM THE NATION'S EARLIEST DAYS, COPING WITH DISASTERS and emergencies stemming from natural forces or from nonattack human causes was left to individuals, to charitable organizations, or to voluntary actions at the community level. For more than a century the prevailing social and legal view was that disasters were "acts of God." [1] As such, it was up to surviving disaster victims, perhaps aided by altruistic individuals, family members, or organizations, to recover from disaster circumstances. As the nation developed economically, as business and industry grew, as capital formation advanced, and as people came to perceive the world with more scientific rationality, Americans began to understand disaster in a different and more logical way. Earthquakes and volcanic activity were explained in geologic and seismologic terms. Severe storms, tornadoes, hurricanes, and their ensuing manifestations—floods, straight-line winds, storm surges, mudslides, landslides, erosion, droughts, and the like—were examined and largely explained by meteorologists, atmospheric scientists, and climate researchers.

The private sector sought to adapt to the occurrence of disasters through the use of insurance and reinsurance systems. By distributing the risk through private insurance, those suffering losses from a disaster had a better chance to rebound economically. Property-casualty insurance protected business owners as well as homeowners and other owners of property, such as cars and boats, but not everyone could afford the amount of insurance needed.

When certain forms of disaster wreaked havoc on certain regions and their economies, private insurers calculated that they could profitably sell policies to cover fire, theft, and wind damage only as long as thousands of policyholders did not file claims for loss all at once. Major earthquakes, hurricanes, and floods that devastate highly developed and heavily populated areas often generate a colossal number of claims in a very short time. In the late 1940s and early 1950s private insurers discontinued selling flood insurance. In addition, the insurance industry found it profitable to market commercial earthquake insurance but less so to sell residential earthquake insurance. And only days after the terrorist attack on New York and the Pentagon on September 11, 2001, private insurance companies eliminated provisions of their

On October 10, 2005, this photo was taken of stacked fishing boats on Highway 23 in Empire, Louisiana. Hurricane Katrina had struck the Gulf Coast on August 29, 2005, causing this devastation. The hurricane proved to be a catastrophic nightmare for people in the central Gulf region as well as for emergency managers and elected officials at all levels of government.

policies covering acts of terrorism. The failure of insurance to cover various types of disasters represented a market failure that by default demanded government action.

Disaster relief in America is closely enmeshed with nonprofit organizations, some of them secular and some of them religious. For many decades charitable organizations ministered to those who could not recover from disaster through private insurance. However, inadequate social giving and deficiencies in the methods of relief allocation used by some charities often failed to meet the full range of human needs created by disaster losses.

Because the United States is a democratic republic with a national constitution, and because it is composed of three countervailing branches of government, responsibility for protecting the polity from harms posed in emergency circumstances falls largely on government institutions operating in accord with certain laws. The U.S. Constitution clearly entrusts the president and Congress with the job of providing for the common defense. Preventing, repelling, responding to, and recovering from the effects of attacks on the American homeland perpetrated by other nations or by terrorists who are stateless has always been a cardinal responsibility of the federal government.

When the citizenry generally accepted that disasters were not simply acts of "God," and when the American private sector conceded that the insurance industry could not cope with the complete panoply of disasters, it was time to press for government action. The creation and maintenance of public emergency management agencies is a product of public policymaking.

As in many domains of public policy, disaster policy emerged at the local level first. Neighborhoods, local communities, and local governments were often forced to provide for both public safety needs and their own disaster recovery.

Governments, too, are property owners. Local and state governments not only own and operate public schools, public hospitals, and government office buildings but also often own and operate important public utilities, roads, bridges, ports, bus and light rail systems, airports, and other public infrastructure. Most local and state governments do not buy private insurance to protect themselves against damage caused by disasters. Consequently, local governments have often petitioned their state governments to provide financial help after disasters.

Governors, as well as mayors, city managers, or other local executives, have the power to declare or proclaim disasters or emergencies in their respective jurisdictions. Local and state taxes have been used to pay for significant shares of local and state government disaster loss. Owing to the damage caused by catastrophic multistate disasters and disasters that cover huge portions of single states, the federal government has gradually been expected to provide disaster relief to disaster victims and to local and state governments themselves. Since 9/11, disaster management has been more tightly linked to what is called terrorism consequence management. Even before 9/11, under **all-hazards emergency management,** all levels of government had been in the business of preparing for and responding to acts of terrorism inside the United States. The so-called Nunn-Lugar-Domenici Act (Title XIV of the 1996 Department of Defense Authorization Act) mandated that the federal government furnish major metropolitan jurisdictions with training and equipment that could be used to help local authorities thwart terrorist attacks of various types or respond to such attacks that actually occur.

The evolution of disaster policy across all levels of American government has helped create the field of emergency management. In this chapter, I first discuss what emergency management is as an occupation, as a field of study, and as policy and politics and then conclude with

the fundamental challenges of emergency management, effective intergovernmental relations, and the phases of emergency management.

EMERGENCY MANAGEMENT AS A PROFESSION

Disaster management is seemingly an oxymoron.[2] Disasters are by definition destructive, calamitous, and often deadly or injurious events, so how is it possible to conceive of managing one? Some insist that disasters cannot be "managed" at all.[3]

From a national perspective, disaster management in the United States has its roots in civil defense. America practiced various forms of **civil defense** at least as long ago as World War I and perhaps as far back as the War of 1812. Civil defense was part of the domestic realm of the U.S. experience during World War II. After World War II, as America's Cold War with the Soviet Union emerged, local communities were pressed to continue civil defense. When the Soviet Union detonated its first atomic bomb in 1949, President Harry S. Truman, and later President Dwight D. Eisenhower, sought to mobilize the nation to prepare for civil defense against nuclear attack. To this day, many local emergency managers owe the origin of their positions to civil defense work.

Over the years, civil defense work moved through a very long "dual use" phase, in which federal support to local civil defense provided overlapping benefits to emergency management of natural disasters. Emergency management as a profession underwent gradual "civilianization." Preparedness and response to domestic natural disasters gradually supplanted and replaced a civil defense focused on national security.[4]

Thus, **emergency management** is the discipline and profession of applying science, technology, planning, and management to deal with extreme events that can injure or kill great numbers of people, do extensive property damage, and disrupt community life. Efforts are made to limit losses and costs through the implementation of strategies and tactics reflecting the full life cycle of disaster: **preparedness, response, recovery,** and **mitigation.**[5]

An **emergency manager** is someone who has the day-to-day responsibility for emergency management programs and activities. Emergency managers marshal and distribute resources to mitigate (lessen the effect of or prevent), prepare for, respond to, and recover from the effects of all types of hazards. They work in every level of government. Because disasters have the potential to affect almost every government agency or program, people with various emergency management duties can be found in almost every type of government agency. In the United States, local emergency managers may hold the title "emergency manager," but it is more likely that they hold a different title, such as director of public safety, sheriff, fire chief, or city or county manager. In some areas the job of emergency manager might be assigned to one of the following civil servants:

- A civil defense coordinator or director
- A civil preparedness coordinator or director
- A disaster services director
- An emergency services director
- A police or fire chief

Some local emergency managers are paid and some are not. State and federal emergency managers are paid civil servants, and those in the highest positions may be politically appointed to their posts. Many federal, state, and local emergency managers are full-time professionals. However, in many relatively low population counties and municipalities emergency managers are part-time volunteers, some of whom may have professional education or training.[6]

Owing to the breadth and complexity of many disasters, the field of emergency management requires multidisciplinary and cross-disciplinary approaches. It requires a wide variety of technical skills: social welfare, community and land-use planning, civil engineering, public works management, environmental science, supply chain management, and information technology, to name a few. Many emergency managers come from emergency responder occupations that are important in emergency management: the fire services, law enforcement, and emergency medicine. Most emergency managers must understand elements of public law, public management, environmental policy, and disaster sociology. At the local level emergency support services (ESS) are usually within the departments of local government. ESS units are expected to be staffed in a way that enables them to respond to emergencies twenty-four hours a day. ESS workers typically come from jobs in law enforcement, fire protection, rescue operations, environmental protection, and public works, and they are the backbone of local emergency response.

Advancing Emergency Management as a Profession

The organizations presented below represent a share of those with strong interest in emergency management. These organizations have helped make emergency management a full-fledged profession, but their variety connotes how multidisciplinary and interdisciplinary the field of emergency management actually is.

- *American Public Works Association, Council on Emergency Management.* The American Public Works Association (http://www.apwa.net/) is an international educational and professional association of public agencies, private sector companies, and individuals dedicated to providing high-quality public works goods and services.
- *American Planning Association.* The American Planning Association (http://www.planning.org/) is a nonprofit public interest and research organization. Members are involved, on a day-to-day basis, in formulating planning policies and preparing land-use regulations that will meet the needs of people and society more effectively.
- *International City/County Management Association.* The International City/County Management Association (http://www.icma.org/main/sc.asp) is the professional and educational association for appointed local government administrators throughout the world.
- *American Society for Public Administration, Section on Emergency and Crisis Management.* The American Society for Public Administration (http://www.aspanet.org/scriptcontent/index.cfm), established in 1939, is the largest and most prominent professional association in the field of public administration. The Section on Emergency and Crisis Management (SECM) was formed in 1985 largely through the efforts of William Petak of the University of Southern California. SECM has some 200 to 300 members and most of them are professors or practitioners of the field.

- *International Association of Emergency Managers (IAEM).* The IAEM (http://www.iaem.com/) is a nonprofit educational organization dedicated to promoting the goals of saving lives and protecting property during emergencies and disasters. IAEM is primarily composed of local emergency managers. It operates a Certified Emergency Manager program.
- *National Emergency Management Association (NEMA).* NEMA (http://www.nemaweb.org/) is the professional association of and for state emergency management directors.
- *International Sociological Association (ISA).* The ISA is a nonprofit association for scientific purposes in the field of sociology and social sciences. The ISA was founded in 1949 under the auspices of UNESCO. The goal of the ISA, is to represent sociologists everywhere, regardless of their school of thought, scientific approaches, or ideological opinion, and to advance sociological knowledge throughout the world. Its members come from 109 countries. The ISA's Research Committee on Sociology of Disasters has made many contributions to both the study and field of emergency management.
- *The International Emergency Management Society (TIEMS).* TIEMS (http://www.tiems.org/) has worldwide membership that includes emergency managers and social science researchers.[7]

An important contributing organization to the profession is the Emergency Management Accreditation Program (EMAP). EMAP maintains a voluntary assessment and accreditation process for state or territorial, tribal, and local government emergency management programs. EMAP conducts baseline assessments of all state and territorial emergency management programs. EMAP combines self-assessment in accord with accepted national standards; documentation of compliance; independent evaluation by trained assessors; and, for accreditation, committee and commission review. These reviews provide the following information:

- An evaluation of a jurisdiction's emergency preparedness and response system against established national standards
- A structure for identifying areas in need of improvement and benchmarking progress
- A methodology for organizing strategic planning and corrective actions and accountability in prioritizing resources
- A catalyst for improved interoperability and continuity
- Strengthened state, territorial, and local preparedness

The standards used in emergency management are collectively called the **EMAP Standard,** and these are based on the National Fire Protection Association (NFPA) 1600 standards (recognized as the national preparedness standard for the private sector) and were developed by state, local, and federal emergency management practitioners.[8]

DISASTERS AS A FIELD OF SCIENTIFIC RESEARCH

Disaster research has been done in many disciplines and fields. Meteorology, seismology, volcanology, engineering, architecture, and a host of other fields routinely contribute scholarship

to the study of emergency management. The social sciences, particularly through sociology, political science, and economics, have also contributed to knowledge creation in emergency management. Today, a wide array of institutes, research centers, and clearinghouses, many working through universities and colleges, conduct research that advances knowledge in disaster studies and emergency management.

Journals like *The International Journal of Mass Emergencies and Disasters, Natural Hazards Observer, The Journal of Contingency and Crisis management* (Europe), *The Journal of Emergency Management,* and *The Journal of Homeland Security and Emergency Management* (an e-journal) have been platforms for presenting new research in the field. The National Science Foundation, the Federal Emergency Management Agency (FEMA), the U.S. Army Corps of Engineers, the U.S. Geological Survey, the National Oceanic and Atmospheric Administration, the U.S. Environmental Protection Agency, the National Institute for Standards and Technology, and other federal agencies have contributed research and research support to the field of emergency management as well.

The United Nations sponsored the International Decade for Natural Disaster Reduction over the 1990s and has assigned emergency management study and work to several of its component offices and organizations. The Organization for American States, serving virtually the entire Western hemisphere, has taken a keen interest in emergency management and disaster research. The World Meteorological Organization serves as an umbrella organization linking meteorologists around the world. The World Health Organization seeks to prevent the spread of disease globally and it, too, serves as a nexus of interchange for physicians and medical researchers worldwide.

Scientists now make daily contributions to emergency management. Earth Observation Satellites now track the advance of drought across West Africa. They make this information available to humanitarian relief organizations, which in turn pre-position food supplies in storage facilities in communities likely to experience drought six months to a year in the future. Satellite telemetry supplies U.S. Forest Service scientists with terrestrial data that make it possible for them to project the likely path of forest fires moving through mountainous terrain. The information they supply is used by smoke jumper teams to plan drop zone locations where the teams, once on the ground, can safely and effectively combat the advancing conflagration. U.S. Geological Survey scientists staff tsunami research centers in Alaska and Hawaii that use deep ocean sensors and seismologic equipment to detect suboceanic earthquakes likely to trigger sea waves, referred to as tsunamis, capable of traveling thousands of miles across the Pacific, ultimately smashing coastlines where they strike. They quickly broadcast their findings to governments and news organizations to provide an alert or disaster warning. The National Severe Storm Center uses Doppler radar, among other technologies, to detect the formation of tornadoes. It then notifies the National Weather Service and media organizations like the Weather Channel to forewarn people in the danger zones. Similarly, the National Hurricane Center tracks tropical depressions, tropical storms, and hurricanes wherever they occur in the world. Its ability to forecast points of likely hurricane landfall has done much to spur successful coastal evacuations and hurricane preparation.

Emergency management is usually associated with public service and government work. However, corporations have become interested in the field for many reasons. Insurance firms

consider disaster probabilities in their models and calculations. Disasters and emergencies affect many lines of insurance, often in profound ways, such that insurers have a vested interest in studying and promoting new ways to reduce disaster risk and loss. Virtually every business or corporation needs to consider how disasters and emergencies will affect their workers, their physical assets, their rates of production or service deliveries, and their profitability. Consider for example how Hurricane Katrina's impact on Gulf Coast oil platforms and onshore oil facilities affected U.S. and world oil and gasoline prices. Major "disaster industry" trade shows and exhibits are now common, demonstrating the growth of a disaster services industry. The private sector has been drawn to the products of disaster research and the services emergency managers are able to provide.

PRESIDENTIAL DISASTER DECLARATIONS

Presidential **declarations of major disaster** or emergency are now so commonplace that they are becoming a routine mode of president-governor interchange. They are also evolving into a major conduit of interaction between federal, state, and local governments. Increased nationwide media coverage of disasters and emergencies of all types became the norm by the late 1980s.[9] This, along with other factors, may have discouraged presidents after Ronald Reagan from turning down gubernatorial requests for major disasters at the rate that earlier presidents did.

The rise of emergency management as a profession and changes in information technology have coincided with increased state and local administrative capacity to document disaster losses. In turn, this may be a factor in the greater number of presidential disaster declarations and subsequent policies and programs.[10] Improved disaster information management since the mid-1980s has aided FEMA in the past and the Department of Homeland Security (DHS) FEMA today, in ascertaining the worthiness of each gubernatorial major disaster declaration request sent to the president.[11] With advances in information technology, state emergency managers can document disaster loss more accurately through more expert damage assessments, and thus governors now have a stronger factual basis for requesting declarations of major disaster than they did earlier. In other words, governors have become better able to prove need before they request declarations.

Some disaster researchers have maintained that U.S. disaster policy is becoming more federalized, this ironically in an era of devolution and decentralization in many other realms of policy.[12] **Counterterrorism** initiatives may portend a complete nationalization of disaster management, but it is more likely that they indicate a much-expanded federal role in the intergovernmental relations of emergency management and disaster policy with the DHS counterterrorism mission given primacy.[13]

FUNDAMENTAL CHALLENGES OF EMERGENCY MANAGEMENT

Emergency managers must face many challenges in crafting emergency management policies and programs and in responding to potential disasters. They need to understand the challenges of issue salience, fragmented government responsibility, and technical expertise.[14]

Issue Salience

Issue salience, or the importance of the issue to the public and to their elected leaders, is a perennial political problem of emergency management. Disasters are by their very nature high-risk, low-probability events. Their infrequency makes it difficult to justify predisaster expenditures of public money in view of seemingly more pressing, ongoing public needs and issues. In the aftermath of major disaster, emergency managers, for a time, enjoy a high political profile and may be able to influence the public and their political representatives to undertake certain essential emergency preparedness or disaster mitigation efforts or projects. However, their salience is usually short-lived once the jurisdiction returns to normalcy. Hurricane Katrina not only opened a "policy window" to allow new issues to move on to the nation's policy agenda, but it "blew down a wall, and through the resulting hole came a raging stream of policy proposals." [15] Policy windows represent the confluence of three separate streams: problem, policy, and politics. Policy windows represent periods when solutions are coupled to problems, and both solutions and problems are connected to favorable political forces.[16] Simply put, Hurricane Katrina was a compelling event in which pronounced problems occurred; various solutions were available to address the problems highlighted by the event; and the event propelled these problems and solutions to the top of the policy agenda, where political officials acted on them.

One way to measure issue salience is through public opinion polling. Disaster policy suffers from what is called the **issue attention cycle.**[17]

This issue attention cycle is rooted both in the nature of certain domestic problems and in the way major communications media interact with the public. The cycle itself has five stages, which may vary in duration depending upon the particular issue involved, but which almost always occur in the following stages:

1. The pre-problem stage. This prevails when some highly undesirable social condition exists but has not yet captured much public attention, even though some experts or interest groups may already be alarmed by it. Usually, objective conditions regarding the problem are far worse during the pre-problem stage than they are by the time the public becomes interested in it.[18] For example, this was true of the U.S. vulnerability to terrorist attack before September 11, 2001, despite the bombing of the World Trade Center by terrorists in 1993. America's coastal vulnerability to hurricanes was understood by many experts before 2005 but poorly appreciated by the public until Hurricane Katrina and the failures of the levees protecting New Orleans and neighboring communities.

2. Alarmed discovery and euphoric enthusiasm. As a result of some dramatic event (like Hurricane Katrina in 2005, the 9/11 terrorist attack, or the *Exxon Valdez* oil tanker spill in 1989) or for other reasons, the public suddenly becomes both aware of and alarmed about a particular problem. This alarmed discovery is invariably accompanied by euphoric enthusiasm about society's ability to "solve this problem" or "do something effective" within a relatively short time. There is strong public pressure in America for political leaders to claim that every problem can be solved. This outlook is rooted in the great American tradition of optimistically viewing most obstacles to social progress as external to the structure of society itself. The implication is that every obstacle can be eliminated and every problem solved

without any fundamental reordering of society itself, if only we devote sufficient effort to it. In some cultures, an underlying sense of irony or even pessimism springs from a widespread belief that many problems cannot be "solved" in any complete sense. In American social and political culture pessimism about seemingly intractable problems like disaster is on the rise, but nevertheless, after every major disaster most Americans expect, and often demand, that government officials do something to address the disaster and its causes.[19]

3. Realizing the cost of significant progress. The third stage consists of a gradually spreading realization that the cost of "solving" the problem is very high indeed. Really doing so would not only take a great deal of money but would also require major sacrifices by large groups in the population. The public thus begins to realize that part of the problem results from arrangements that are providing significant benefits to someone—often to millions. For example, Americans realize it will cost huge sums of money and vast resources to rebuild Louisiana levees to withstand a category 5 hurricane. They may also come to understand the high cost of replacing Louisiana's vanishing wetlands, a major coastal defense against hurricane storm surge. However, Americans, especially many Gulf Coast residents, are likely to insist on resettling the same hurricane-vulnerable damage zones they occupied before. They will demand that all of the public infrastructure they relied on before the hurricane be rebuilt in virtually the same exact location as before.

   In certain cases, technological progress may eliminate some of the undesirable results of a problem without causing any major restructuring of society or any loss of present benefits by others (except for higher money costs). In the optimistic American tradition, such a technological solution is initially assumed to be possible for nearly every problem. Our most pressing social problems, however, usually involve either the exploitation, whether deliberate or unconscious, of one group in society by another or the prevention of one group from enjoying something that others want to keep for themselves.[20] (For example, before Hurricane Katrina struck in 2005 many of those who lived along the Gulf Coast in hurricane-vulnerable zones and who had the means to purchase National Flood Insurance to protect their homes but elected not to buy it nevertheless demanded that the national taxpayer bail them out through generous disaster relief. Correspondingly, development policy, both national and state, gave priority to dredging the Mississippi River and maintaining canal and channel navigability in the interests of commerce and water freight in the lower Mississippi and around New Orleans. This came at the expense of levee protection and wetland preservation that would have mitigated some of Katrina's devastating effects. There was in fact a trade-off between economic priorities and public safety.[21]) The increasing recognition that this type of relationship exists between the problem and its "solution" constitutes a key part of the third stage.

4. Gradual decline of intense public interest. The previous stage becomes almost imperceptibly transformed into the fourth stage: a gradual decline in the intensity of public interest in the problem. As more and more people realize how difficult, and how costly for them, a solution to the problem would be, three reactions set in. Some people just get discouraged. Others feel positively threatened by thinking about the problem, so they suppress such thoughts. Still others become bored by the issue. Most people experience some combination of these feelings. Consequently, public desire to keep attention focused on the

issue wanes. And by this time, some other issue is usually entering stage 2; so it exerts a more novel and thus more powerful claim upon public attention.[22]

5. The post-problem stage. In the final stage, an issue that has been replaced at the center of public concern moves into a prolonged limbo—a twilight realm of lesser attention or spasmodic recurrences of interest. However, the issue now has a different relation to public attention from that which prevailed in the pre-problem stage. For one thing, during the time that interest was sharply focused on this problem, new institutions, programs, and policies may have been created to help solve it. These entities almost always persist and often have some impact even after public attention has shifted elsewhere.[23] For example, the president and Congress established a Gulf Coast Recovery Authority to help victims of hurricanes Katrina and Rita recover from those 2005 disasters. Billions of federal dollars are now flowing to the region through a variety of federal and state programs. People have come to believe that the problem of hurricane vulnerability is being addressed. As other problems come to the fore, disaster preparedness tends to get less news media attention, less public attention, and less attention from policymakers.

   Any major problem that once was elevated to national prominence may sporadically recapture public interest; or important aspects of it may become attached to some other problem that subsequently dominates center stage. Therefore, problems that have gone through the cycle almost always receive a higher average level of attention, public effort, and general concern than those still in the prediscovery stage.[24]

Fragmented Government Responsibility

Fragmented government responsibility is a political challenge for disaster managers. The United States has a highly decentralized, federal system of government, which under the U.S. Constitution affords the national government a range of authority. Some powers are reserved for the states under the Tenth Amendment. Similarly, in some states, local governments, although legally vestiges of their respective state government, possess certain powers under home rule provisions approved by their states, by their state constitution, or through enabling statutes. The federal system of layers of governments creates a form of vertical fragmentation among national, state, and local governments.

Moreover, there is also horizontal fragmentation, owing to a multitude of competing agencies with overlapping jurisdictional prerogatives on each level of government. Effective decision making and program coordination among all these agencies is difficult in the extreme. Here is one view of the system:

> Disaster relief is a system of complex and interdependent programs that work well most of the time. When it succeeds, the disaster relief system does so not because of the inspired operational leadership at the federal level, but because it is a system whose pieces have been built beforehand, over time in response to public preparedness policies, state and local government initiative, and private sector response to market incentives and regulation, as well as the dedication of private voluntary organizations, and the acumen of individuals and families.[25]

This underlines the need for multiagency and multijurisdictional coordination concerning emergency and disaster issues. The National Response Plan (NRP), put into effect in 2005 and massively revised that same year after Hurricane Katrina, aims to promote the coordination and integration of federal, state, and local emergency management. However, some complain that the Department of Homeland Security has used the NRP to overemphasize preparedness for terrorism to the detriment of preparing the nation for natural disasters.

Vertical fragmentation occurs when federal, state, and local officials fail to coordinate their respective actions with one another. For example, this happens when federal officials act independently or without consultation with their state and local counterparts. It may also occur when local or state officials fail to act in concert or when each fails to properly apprise federal authorities of their actions. The overcentralization of decision making on the federal level under the NRP and its National Incident Management System, often alleged by state and local emergency managers and their professional organizations, promotes vertical fragmentation.[26]

Disaster policy and emergency management both inherently involve intergovernmental relations. **Intergovernmental relations** involve the interaction and exchanges of public and private organizations across all layers of government. The growth of societal interdependence, in economic and technological terms, has created a webbed and networked world that depends on both the support and regulation of government.

The major power blackout suffered by the Northeast in the summer of 2004 stemmed in part from inadequate tree pruning around the power lines of a small private electric utility in northeastern Ohio. A cascade effect was produced that knocked down huge portions of the power grid of New York State, Ohio, and Pennsylvania. Millions were without power for a period of several days. To rectify the problem, private and public utilities had to cooperate and rebuild portions of the grid and power pool managers (those who manage the flow of electricity from utility to utility and over a regional power network) had to work in synchronization; state and local emergency managers meanwhile had to swing into action to direct traffic when no signals operated, rescue people trapped on elevators, and work with public and private nonprofit social welfare agencies, making sure people would not die of heat stroke in their un-air-conditioned residences. The Federal Energy Regulatory Commission (FERC) launched months of investigations. FERC sought to ascertain the source of the outage and to determine liability for costs of the power failure. The president even issued disaster declarations to New York, Ohio, and Pennsylvania, among other states. How could inadequate tree pruning in Ohio produce such dire consequences? The answer is "tightly coupled interdependence." [27]

Communities of Stakeholders

Emergency management has various communities of stakeholders. **Stakeholders** with political clout have often been influential in determining which state or local agency has lead jurisdiction during emergencies and disasters. Stakeholders are persons, groups, or institutions with interests in a project, program, or policy. Primary stakeholders are those ultimately affected by the policy or program, either positively or negatively. Key stakeholders are those who can significantly influence, or are important to the success of, the policy, program, or project. In some states and localities the political power of paid or volunteer fire service people, a key stakeholder group, dominates emergency management. In some states and localities law enforcement agencies have

TABLE 1-1 Needs of Stakeholders and Participants in Disaster Recovery

	Immediate and long-term needs
Individuals and families	Housing Restoration of employment Health and welfare Restoration of schools and other educational facilities
Business and industry	Reconstitution of business, business recovery Rehiring of workers Insurance supplementation or coverage of uninsured losses Business altruistic activity
Communities and local government	Restoration of utilities and lifeline services Support of nonprofit charitable organizations Infrastructure repair and replacement Supervision of local recovery Debris removal Postdisaster planning
State and federal government	Repair or replacement of state-owned infrastructure or facilities Repair or replacement of federally owned infrastructure or facilities

Source: George D. Haddow and Jane A. Bullock, *Introduction to Emergency Management*, 2nd ed. (Boston: Elsevier, Butterworth-Heinemann, 2006): 136–140.

been entrusted with emergency management authority and responsibilities. In some local governments the medical community, another key stakeholder, has assumed lead jurisdiction in emergency management, through the services it provides in public and private hospitals and emergency medicine. In about half of the states top emergency management is a quasi-military responsibility led by the state adjutant general, an official who heads the state's National Guard. Because National Guard units are under the control of governors in each respective state, adjutant generals often have close relationships with their respective state governor.

State and local governments have moved into the realm of disaster policy and emergency management in different ways. Through the 1950s and 1960s, some have nurtured emergency management as an extension of their civil defense work. Others, which have had poor experience with previous disasters, often with highly negative political repercussions for those in office, have moved emergency management closer to the executive realm. In some localities disaster management was a political football fought over by police and firefighters, both of whom wanted primary jurisdictional authority in emergency and disaster circumstances. Some of the common concerns of emergency managers and stakeholders active in disaster recovery are presented in Table 1-1.

Who Has Jurisdiction over Emergency Management?

Until the Rudolph Giuliani mayorship in the mid-1990s, New York City emergency management was led by the city's police department (NYPD) for many years. Giuliani carried out a

reorganization that took the city's Office of Emergency Management away from the NYPD and made it an arm of his executive office some two blocks away from the World Trade Center. Mayor Michael R. Bloomberg, who succeeded Giuliani in 2002, reversed his predecessor's action and moved city emergency management back under the lead control of the NYPD. Why all of these machinations? In New York City several city departments, more specifically the Fire Department of New York (FDNY) and the NYPD, have long fought for leadership control of city emergency management. As in most municipalities, the mayor of New York relies heavily on emergency managers. Mayors need notification about local emergencies and disasters for at least two reasons. First, certain emergency circumstances require mayor-level executive decisions. Second, owing to the newsworthiness of local disasters and emergencies, mayors need to be apprised of these events at least as early as the news media. In emergencies and disasters the mayor's public image may be at stake. Moreover, mayors are the personification of the municipalities they lead, and people expect them to respond to the calamities their cities experience.

In New York, one factor in the dispute between the NYPD and the FDNY was the 911 emergency call system. The NYPD operates and controls the city's 911 emergency telephone system. Police leaders have long insisted that emergency management authority should be located within the NYPD and adjacent to its 911 operations center, as it was before Giuliani's reorganization. The FDNY responds daily to a vast number of city calamities, including false alarms and non-fire emergencies, through its citywide system of fire-call boxes. For this reason and others, top city firefighters believe they are justified in insisting that control of city emergency management should reside with their department.[28] Another factor in the New York dispute may have stemmed from conflict between Mayor Giuliani and the New York police commissioner. On top of all this, New York police and firefighters have a long history of competition and disputes dating back to the mid-1800s. However, the terrorist attacks of 9/11 and the sad shared experience of loss by each department on that day served to temper the dispute between the NYPD and the FDNY over control of emergency management, and the two groups have formulated protocols, planned for, and practiced together many emergency management and homeland security scenarios and exercises since then.

The point of the example is that jurisdiction over some realms of emergency management is occasionally a subject of bureaucratic and political conflict. Government reorganizations are often manifestations of ongoing "battles" between different leaders, public departments, agencies, and offices. Sometimes emergency management is the object of reorganization. State and local emergency management involves so many different subjects and concerns that seldom can a local government agency claim complete dominion over it. This, too, adds to political and administrative disputes over who will have control of what in emergency management. The post-9/11 emergence of homeland security, introduced with relatively massive levels of federal funding, triggered waves of state and local reorganization, much of it involving emergency managers and emergency management.

Local Governments and Decentralization Issues

Disasters are usually localized geographically. Therefore, county and municipal authorities most often assume primary responsibility for emergency management. However, the policymaking,

administrative, and fiscal capacity of many local governments is often questionable. Owing to competing demands and cross-pressures, many local officials are reluctant, unwilling, or unable to design, implement, and support effective disaster preparedness and response programs. As mentioned previously, vertical fragmentation transpires when federal, state, and local authorities fail to coordinate their emergency management responsibilities, when they act independently of one another, when they duplicate their efforts or work at cross-purposes, or when one level of government fails to carry out its obligations. The National Response Plan, officially put into effect in the spring of 2005, was supposed to prevent vertical fragmentation. Moreover, the plan was supposed to establish a system to help the nation manage "incidents of national significance," whether caused by terrorism or natural disaster.

HOW THINGS WORK

MULTIAGENCY AND MULTIJURISDICTION COORDINATION

Multiagency and multigovernment jurisdictions challenge emergency managers. Disasters and emergencies often:

- change the division of labor and resources in an organization;
- compel a sharing of tasks and resources among organizations;
- involve the crossing of jurisdictional boundaries both in terms of geography and responsibility;
- require completion of nonroutine tasks under abnormal circumstances;
- damage, make unavailable, or overwhelm normal emergency response tools and facilities;
- necessitate new organizational arrangements to meet the problems posed.

Emergency management is also challenged by a fundamental public distrust of government planning efforts, strong resistance to land-use and construction regulation, and a tendency, especially at state and local levels, to focus only on recent disasters. Levels of risk are also difficult to measure. Cause-and-effect relationships are elusive as well. Unfortunately, in some places there remain people and government officials who continue to believe that waiting for emergencies to occur and then dealing with their effects is more sensible than preparing for and mitigating potential effects before a disaster strikes. Furthermore, government relief assistance is politically popular and desired, whereas mitigation and preparedness are seldom politically popular. Because of this, "Mitigation is still not the sole or even the primary goal of federal disaster policy." [29]

In large measure, the federal system's division of powers accords local and state governments the lead role in responding to most types of hazards and disasters. The national government has assumed a facilitating role through FEMA, which was independent from 1979 to 2003 and has been positioned within DHS since then. State and local governments also develop emergency management procedures. America has a highly decentralized and elaborate array of emergency management procedures in which local emergency management is the base. There are some qualifiers. For some types—civil defense, nuclear accidents, and counterterrorism—the federal role in policymaking and administration is dominant. Unfortunately, the job of emergency manager often lacks clarity in law, regulation, and historical practice. Some of this lack stems from how people perceive disaster and the risk of disaster.

Horizontal fragmentation may be reduced if adjacent or nearby states and local jurisdictions establish mutual assistance agreements with one another "before" disasters and emergencies transpire. These agreements alleviate some of the jurisdictional confusion. Vertical and horizontal fragmentation complicates emergency management. Such fragmentation is not easily overcome even though "shared governance" holds some potential for achieving improvements in emergency management.[30] Vertical and horizontal fragmentation often contributes to the problems of insufficient technical expertise, inadequate fiscal resources, and unclear legislative mandates.

Over the past three decades, decentralization in government has become a mantra of political leaders, regardless of political party. **Decentralization,** with sound coordination, is how many authorities define successful emergency management. As noted earlier, emergency management has fundamentally been a local obligation, often undertaken with the help of private charitable organizations. However, local governments in most states are either considered "creatures" of their states or they are accorded certain "independent powers" by their states, sometimes under "home rule" laws or policies. States themselves enjoy limited areas of "reserved powers" under the U.S. Constitution, but the range of federal powers over the states is vast. Thus, although many people consider emergency management a "bedrock" local responsibility, both the state and the federal government are now actors, often with public endorsement, in local emergency management. Simply put, local officials may have recognized their own limitations in addressing disaster; local officials may have become accustomed to state and federal assistance after disasters; and local officials may have come to recognize their dependence such that the coordinated help of state and federal authorities is today ordinarily welcomed.

Federal and state policymakers and public managers often cannot easily grasp the emergency management organizational complexity of some thirty-five hundred county governments and thousands more municipal and special district governments. In fashioning disaster policy, federal and state authorities have endeavored to promote where possible consistency and, to a degree, professionalism in local emergency management. Part of this effort is evident in all-hazards emergency management. The essence of this concept is that common sets of emergency preparedness and response procedures and practices are applicable in any locality regardless of differences in geography or demography. It is also assumed that an economy of scale can be reached by planning and preparing for disaster in generic terms (thus, "all hazards") rather than by planning or preparing for each unique type of disaster.

Disaster management also requires strong cooperation and coordination among public, nonprofit, and private organizations. Emergency management is conducted in a fluid and often chaotic environment. Local government officials must interact ably with other local government officials and with people representing private or nonprofit organizations. A county government may offer assistance under a previously arranged mutual aid agreement. Private construction companies that have experience in meeting building code rules may offer emergency rebuilding or repair assistance. Area chemical companies may volunteer their services to clean up and detoxify hazardous substances accidentally released during the disaster. A host of local, state, or national charitable organizations may offer human services aid that local governments cannot. Help from the private and nonprofit sectors often augments successful emergency management, sometimes meeting needs or filling gaps that government is unable to address fully.

Disaster management recognizes the need to consider the types or categories of disaster. Each one of the different categories of disaster embodies different types of duties and responsibilities for disaster managers. These duties and responsibilities are not always compatible across categories of disaster incidents. For example, a terrorist attack, such as occurred on September 11, 2001, mobilized fire service personnel, police officers, emergency managers, law enforcement officials, military personnel, and many others. The sites attacked were a scene of human disaster, a crime scene, and of high national security interest. Search and rescue, public safety, firefighting, crime scene investigation, forensic and coroner work, all had to be pursued at the same site. In such situations conflicts are likely to occur over who is to do what and when.

Similarly, a coastal flood, such as the flooding that often occurs after nor'easters in New England and along the Mid-Atlantic, may be a human disaster and an environmental issue. Some authorities will press for rebuilding damaged onshore structures or replenishing lost beach sand, whereas others will seek to protect natural habitats and coastal marine resources by discouraging rebuilding and instead recommending ways to accommodate the changes produced by the storm. Different types of disasters embody different sets of concerns, political issues, authority, and jurisdiction.

Political Aspects of Disaster

Disasters have political features. Natural disasters and emergencies, in particular, provide excellent windows of opportunity for public officials.[31] Often these officials use disasters or emergencies to demonstrate their leadership capabilities and their willingness to tackle difficult problems. Their actions on these occasions usually draw media publicity and instant public notice. Moreover, it is extremely difficult to oppose or criticize an official who steps in and gives the appearance of taking charge in order to help disaster victims.

Natural disasters also produce conditions that allow political leaders to show their concern for citizens' needs and demands. Disaster victims often encounter problems that they have never before experienced and which they may be unprepared or ill equipped to handle on their own. Public officials are in a position to highlight needs and channel resources to help those in distress. Disaster gives elected or appointed leaders a perfect opportunity to demonstrate their responsiveness to the needs of the people. Disasters may create tremendous opportunities for elected officials to provide service to their constituents. Government leaders who successfully address disaster-related problems are likely to be rewarded politically, whereas those leaders who are unwilling or unable to act may suffer negative political repercussions.

Disasters embody "political dangers" for elected executives and for senior public managers. Bungle a disaster and political executives will pay a political price. Perceived incompetence during disasters often comes at a high price for political officials.[32]

The Problem of Disaster Insurance

It became apparent to policymakers as early as the 1950s that private sector insurance companies were either unwilling to provide residential insurance against flood or incapable of doing

so. This created a major unmet need in several respects. Federal disaster relief programs only gradually came to extend relief directly to individuals and families, and much of this relief was at the time wholly inadequate to help victims who suffered losses from flooding or from any other disaster agent.

A massive share of presidential disaster declarations from 1950 to 1980 covered flood disasters, many associated with hurricanes, tornadoes, and severe storms. Presidents and lawmakers seemed constantly to revisit the problem of inadequate help for those individuals and families suffering flood loss.[33]

Presidents and Congress slowly and haltingly moved toward the creation of a National Flood Insurance Program (NFIP) that would invite localities to join if they promised to meet federal

HISTORY'S LESSONS

THE MATTER OF DISASTER INSURANCE

Owing to a 1958 study by the geographer Gilbert F. White and his colleagues entitled "Changes in Urban Occupance of Flood Plains in the United States," and due to the public education and advocacy efforts of White and others, many policymakers and others were made aware that land-use pressures and the failure to keep development out of potential flood zones were putting more people and structures in jeopardy.[34] The study even alleged that a condition of "moral hazard" was emerging because postflood federal disaster relief led many people to believe that should flood disaster occur the federal government would be there to set things straight. **Moral hazard** in the realm of insurance refers to an increase in the probability of loss caused by the behavior of a policyholder.[35] Another way to look at this is that federal disaster assistance "creates a type of Samaritan's dilemma: providing assistance after a catastrophe reduces the economic incentives of potential victims to invest in protective measures prior to a disaster. If the expectation of disaster assistance reduces the demand for insurance, the political pressure on the government to provide assistance after a disaster is reinforced or amplified." [36]

By 1960, the final year of Eisenhower's presidency, Congress had amended the Flood Control Act and authorized the U.S. Army Corps of Engineers to compile and disseminate information on floods and flood damages at the request of a state or responsible local agency. As a result of the act, the Army Corps of Engineers established a Flood Plain Management Service, a body that promoted flood mitigation and supplied advisory flood maps to local communities.

One of the reasons that the National Flood Insurance Program (NFIP) was established in 1968 was to encourage individuals who resided in hazard-prone areas to purchase flood insurance. The insurance was low priced—remember, a government insurance program is not necessarily required to show a profit—and policymakers hoped that the availability and low cost of this insurance would reduce the need to supply so much federal disaster grant and loan assistance after future floods. Yet, "[f]ew individuals voluntarily bought this coverage so that when Tropical Storm Agnes in June 1972 hit the northeast causing over $2 billion in damage, only 1583 claims totaling $5 million were paid under the NFIP. Even though flood coverage has been required since 1973 as a condition for a federally insured mortgage, it has been estimated that less than 40 percent of the victims of Hurricane Katrina in Mississippi and Louisiana had flood insurance to cover their losses." [37]

standards aimed at limiting development in floodplains and promoting flood-proof construction. People living in the communities that joined the NFIP would then be eligible to buy relatively low-cost flood insurance from the federal government. In effect, the federal government would use insurance as a key form of disaster assistance and as a tool of flood mitigation.

The National Flood Insurance Program was supposed to be a premier instrument of both disaster mitigation and disaster recovery. The program that continues today has been only modestly successful. Many local governments participate in the program and generally abide by its flood mitigation rules. Through the years, however, NFIP has only weakly penalized localities that disregarded its rules, owing to understaffing and limited sanction powers. Worse still, too few property owners purchase and maintain NFIP policies. People who refuse to buy national flood insurance, even those who experience recurring flood loss through the years, are rarely denied federal disaster relief after a federally declared flood disaster damages their property. On top of all of this, private insurers continue to cover wind damage (but not that caused by flood water) in their homeowner insurance policies. NFIP covers flood water damage but not wind-caused damage. Consequently, many homeowners have fallen into insurance "limbo" as private insurers contest claims for damage they believe is caused by flooding and NFIP denies claims for damage it concludes was caused by wind. For example, a vast number of NFIP policyholders in Katrina damage zones ended up having their claims denied by both NFIP and their private insurer. At this writing, this insurance "policy" failure remains unresolved.

Technical Expertise

Emergency management is conducted within a complex political, economic, and social environment. In part, this explains why emergency management has so long lacked a coherent, coordinated policy framework. Designing and implementing comprehensive emergency management procedures is easier said than done, principally because of the obstacles to effective action created by problems stemming from low political salience, fragmented government responsibility, and lack of emergency manager technical expertise.

Lack of technical expertise and confusion about the kind of expertise that is needed is another major impediment to effective emergency management. The technical expertise needed to identify and assess hazards adequately, predict the occurrence of disasters, and provide the requisite technical information for the design and implementation of effective programs is crucial to effective emergency management. Moreover, even when hazards have been identified, it is often unclear just how much risk is involved. In bygone eras, emergency management required little technical knowledge or expertise when compared with many other occupational specialties.

Today, emergency managers need to master a specialized body of knowledge, often involving many different disciplines. Accounting and budgeting skills are important. Public relations expertise and political savvy are necessary. Computing ability, for information management, decision support, geographic information systems, and so on, has become more a part of routine emergency management work. A working knowledge of disaster-related laws and programs is vital. FEMA's Emergency Management Institute regularly conducts conferences that examine the knowledge-skills-abilities (KSAs) needed to do emergency management.[38] There is no consensus thus far on precisely the skill sets needed. However, the Emergency

Management Accreditation Program, a private voluntary consortium, has been working to establish what credentials are needed for a person to be classified as a "qualified emergency manager." [39]

Decision making in disaster management encompass the following assumptions.

- Disaster planning is a continuous process. It should not be based on a single emergency but instead on several. Such planning must allow for the constant incorporation of new findings.
- Disaster planning should attempt to reduce uncertainty in crises by anticipating problems and projecting possible solutions.
- Disaster planning stipulates that the appropriateness of response is more important than speed of response.
- Disaster planning is based on what will probably happen; procedures need to address what people are likely to do in emergencies, not on myths or common nostrums about human behavior.
- Disaster planning involves the education of response and recovery people. They need to know that emergency procedures exist and that it is important that they understand and follow these procedures.
- Disaster management needs to be "sold" effectively to communities to be taken seriously.
- Disaster management requires exercises and practice or otherwise the best plans tend to become worthless.

PHASES OF EMERGENCY MANAGEMENT

The four phases of emergency management encompass mitigation, preparedness, response, and recovery.

Mitigation

Mitigation involves deciding what to do where a risk to the health, safety, and welfare of society has been determined to exist and then implementing a risk reduction program. It is sustained action to reduce or eliminate risk to people and property from hazards and their effects. The recovery phase of disaster also offers opportunity for mitigation actions.[40] In addition, mitigation may also be any cost-effective measure that will reduce the potential for damage to a facility from a disaster event. This includes identifying, measuring, and addressing hazard vulnerability; more and more often, it also includes activities undertaken after a disaster to lessen the likelihood of future disasters from both physical and social phenomena that are potentially dangerous.[41]

The formation of FEMA spotlighted the significance of hazard mitigation and preparedness, and by the 1990s FEMA gave impetus to a proactive, rather than a reactive, approach to emergency management. Instead of merely doing disaster recovery work, FEMA emphasized keeping people out of hazard-prone, high-risk areas through instruments such as zoning laws, building codes, and land-use regulations. In effect, FEMA began to encourage or induce local

HOW THINGS WORK

POLITY, POWER, AND RESPONSIBILITY

In the American polity, power and responsibility are dispersed by design. This poses a challenge to those who seek tighter and more coherent organization of federal emergency management. If the Department of Homeland Security helps integrate federal disaster management, it may work to diminish jurisdictional fragmentation. However, if the goal of "national disaster management" becomes the prevention or preparation for terrorist attacks inside the United States, to the detriment of conventional disaster management, new forms of jurisdictional controversy will result. According to a 1995 congressional report, spending percentages of federal disaster relief funding demonstrated the following shares: recovery (73 percent), mitigation (22 percent), and combined preparedness and response (5 percent).[42] These figures highlight the need to promote more mitigation, preparedness, and response. The Senate Bipartisan Task Force report of 1995 discloses that 54 percent of funding in the period measured has gone to grants for disaster victims and communities, as well as to payment of operating expenses of federal disaster response programs.[43] The terrorist attacks of 9/11 and the resulting national reaction have infused preparedness and response with massive new funding. Therefore, the 1995 shares may be badly out of date today. However, Hurricane Katrina in 2005 may have counterweighted the disaster spending scale back to huge recovery expenditures.

In spite of the remarkable upturn in federal disaster spending since the 1980s, federal efforts are supposed to supplement, not supplant, the efforts of others. Most disasters and emergencies do not involve state or federal government, only local government, although the state and federal role has increased dramatically since 1950. Federal agencies, particularly FEMA, stimulate and guide emergency planning efforts, furnish substantial response and recovery funding, coordinate response efforts after (and sometimes before) a governor secures help from the president, and fund many disaster mitigation endeavors.

officials and individuals to adopt mitigative policies. Mitigation work opened up a perennial, highly political difference of opinion between FEMA and various local officials, developers, and citizens. As subsequent chapters explain, federal efforts to promote local disaster mitigation activity, especially through grant conditions and NFIP requirements, often ran afoul of local economic development interests, who objected with accusations that the federal government was interfering with local land use and building code powers. FEMA officials attempted to persuade community people to proactively protect themselves through hazard mitigation activities.

Tools for mitigation include the following:

- Hazard identification and mapping (for example, by the NFIP, the U.S. Geological Survey, the states, geographic information systems, Hazards U.S.-Multi-Hazard [HAZUS-MH] software program)
- Design and construction applications (code development, model codes, geographic

sensitivity, retrofit ordinances, elevation of homes, removal of flammable vegetation around homes, landscaping)
- Land-use planning (prevents development in floodplains or high-hazard zones, relocates structures), zoning rules, property acquisition
- Financial incentives (special tax assessments in the interest of mitigation or relocation aid), use of other federal program monies to pay for property acquisition and relocation
- Insurance (NFIP, federal subsidization of some other forms of insurance, such as terrorism insurance), indemnification requirements as a condition of loan approvals by the Department of Veterans Affairs (VA), the Department of Housing and Urban Development (HUD), or the Federal Housing Administration (FHA); other federal mortgage aid. The federal government provides insurers with maps of high-hazard zones. The Community Rating System rewards good performers with lower NFIP premiums for their people.
- Structural controls (public works, flood works, levees, dams, flood channels, shoreline structural protection).[44]

Preparedness

Preparedness involves developing a response plan and training first responders to save lives and reduce disaster damage, identifying critical resources, and developing necessary agreements among responding agencies, both within the jurisdiction and with other jurisdictions. Preparedness also entails "readying for expected threats, including contingency planning, resource management, mutual aid, . . . [and] public information." [45] Preparedness is a functional aspect of emergency management that contributes to sound emergency "response" and "recovery" from a disaster.

Emergency management has to rely on academic or analytical processes, especially those resting on a systems approach to management. Preparedness relies heavily on a systemic conceptualization. The standards used, collectively called the EMAP Standard, are based on the National Fire Protection Association 1600 standards (recognized as the national preparedness standard for the private sector) and were developed by state, local, and federal emergency management practitioners.[46]

Response

Response entails providing emergency aid and assistance, reducing the probability of secondary damage, and minimizing problems for recovery operations. In an emergency situation, emergency managers rarely direct actual response operations. There are exceptions, as when management of a crisis falls to a senior elected official or to the lead emergency services agency.[47] Disaster response objectives include protecting lives, limiting property loss, and overcoming the disruptions that disasters cause.[48] The response phase of disaster is often the most dramatic phase of the disaster cycle.

Recovery

Recovery involves providing the immediate support during the early postdisaster period necessary to return vital life-support systems to minimum operational levels and continuing to provide support until the community returns to normal.[49]

Recovery is the most expensive phase of the disaster cycle. Recovery involves restoration, rebuilding, and return to normalcy. The pool of players involved in recovery is huge and far exceeds the number of players usually involved in disaster response. Decisions regarding disaster recovery are fundamentally made at the local level of government.[50]

CONCLUSION AND SUMMARY

In some respects, disasters are socially and politically constructed phenomena. Who could imagine that the influx of Cuban immigrants from Fidel Castro's Mariel boatlift in 1980 would induce President Jimmy Carter to issue a disaster declaration for this event? How could the breakup of the *Columbia* Space Shuttle in 2003 cause President George W. Bush to use his disaster declaration powers to grant governors in states suspected to be in the shuttle's debris zone reimbursement of the costs related to their shuttle disaster response? Presidents have at times used their power to declare disasters in ways that have expanded the definition of disaster in political and public administrative terms.

Disasters sometimes cause major shifts in national priorities and significant changes in other policy domains. The August 2007 collapse of the Minneapolis area I-35 Mississippi River Bridge, a dramatic infrastructure disaster, may impel national policymakers to shift a portion of federal defense spending to the replacement, repair, and improved maintenance and inspection of the nation's bridgeworks. The 9/11 terrorism disaster induced policymakers to move federal emergency management into a holding company of agencies implementing policies ranging from immigration control, border security, coastal maritime work, aviation security, public health, domestic intelligence collection, right up to Secret Service protection of government leaders.

This chapter examined the essentials of emergency management and disaster policy. It covered emergency management as a profession. It explored stakeholder groups in the domain of disaster policy. The chapter also introduced an overview of disaster as a field of scientific research. Presidential disaster declarations were introduced, as were the major challenges facing emergency management. Among these challenges are the perennial low issue salience of disaster as a public and political phenomenon, the fragmentation of government responsibility for disaster-related concerns, the difficulties local governments face in addressing emergency management, the political aspects of the disaster phenomenon, the problem of disaster insurance, and the challenge of training and educating emergency managers for a field that is technically complex and highly multi-disciplinary. This chapter also introduced the four-phased cycle of emergency management: mitigation, preparedness, response, and recovery. Many of these essentials will be developed more fully in subsequent chapters. If you know these essentials you are off to a good start.

KEY TERMS AND CONCEPTS