

Making Matters Worse

An Anatomy of Leadership Failures in Managing Catastrophic Events

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Catastrophic disasters require additional leadership capabilities because extreme events overwhelm local capabilities and damage emergency response systems themselves. Therefore, leaders at all levels must adapt and rebuild the response system, even while they are addressing the pressing needs of the disaster itself. Leaders can minimize or maximize the effects of the trigger event(s) by their actions and competence in dealing with this especially difficult set of overlapping and, frequently, even inconsistent tasks. This case studies the effects of the Katrina–Rita hurricanes on New Orleans and systematically examines how poor leadership—lacking a series of critical competencies required in extreme conditions—can maximize catastrophic events.

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Just as leadership makes a substantial difference but is increasingly complex in organizational settings (Trottier, Van Wart, & Wang, 2008; Van Wart & Berman, 1999), leadership makes an enormous difference in managing routine emergencies and catastrophic events (Boin & 't Hart, 2003; Giuliani, 2002; Kapucu, 2006b; Kweit & Kweit, 2006; Sjoberg, Claes, & Larsson, 2006; Witt, 2002). At the extremes, good leadership either minimizes catastrophes or prevents them altogether, whereas weak leadership makes matters worse, compounding the damage. In a previous

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study, Kapucu and Van Wart (2006) used a theoretical model to examine the systemic basics of good leadership during catastrophic events using Florida's exemplary performance during the "horde of enormous hurricanes" that pounded the state in 2004 and were the second most damaging in U.S. history (Townsend, 2006). We demonstrated in our study how good leadership in catastrophic conditions minimizes the scope of negative effects (Kapucu & Van Wart, 2006). In this study, we examine the reverse aspects of the theoretical framework and look at the critical leadership elements and specific competencies that, if lacking, maximize the scope of catastrophe. We use the unfortunate, but all-too-ideal, case study of the emergency management system responding to New Orleans in the Katrina–Rita storms of 2005 (hereafter simply referred to as Katrina).

In most catastrophes—where leadership is put to an extreme test—there is normally a mixed response of success and failure. Even in the more extreme cases where leadership is outstanding or highly flawed as a whole, there are always important exceptions in these large-scale events. For example, although the overall emergency response to Katrina was universally criticized, in particular with regard to New Orleans, the press and various government reports are full of specific government agencies, nonprofit organizations, private sector businesses, and volunteer efforts that were outstanding in their humanity, efficiency, and effectiveness across the states affected (Menzel, 2006; U.S. Senate, 2006; Waugh & Streib, 2006). Although acknowledging these positive contributions, however, we will focus on the series of extraordinary systemic failures that made the successes the exception rather than the rule in this enormous event.

Ironically, classic examples of especially good performance are less visible, at least to the public at large, because their very success reduces their visibility and newsworthiness. Indeed, in the safe construction of dams and levees, or the foiling of terrorist plots, success produces a nonevent that is quickly forgotten. Common examples of superb emergency responses are the tornadoes that hit the Midwest with frequency but without warning, and the especially noteworthy response–recovery effort of New York City after the attack on the World Trade Center (WTC). The latter case is a good example of how the mitigation and preparation may have been poor, but good leadership provided a unified response in a remarkably short time, despite the destruction of the New York City Emergency Response Center in the World Trade Center and the horrific loss of police and firefighters (S. E. Clarke & Chenoweth, 2006; Kapucu, 2006b).

On the other hand, classic examples of poor response usually become embedded in history. Particularly well known is the Johnstown flood of

1889 in which a man-made reservoir destroyed a town, and the state and federal government efforts to assist were negligible (this systemic weakness led to the creation of the American Red Cross to focus private efforts). An event that has left the national consciousness now, but haunted the South for decades and foreshadowed Katrina, was the Great Flood of 1927 in which more than 1,000 likely died and the response efforts encompassed little more than to wait for the floodwaters to recede (Nowell, 2006; Rubin, 2007; U.S. Army Corps of Engineers, 2002). The poor Black community was particularly hard hit and, rather than being assisted in the recovery, many were dragooned into forced labor and thousands lost their land after the event. A final important example is Hurricane Andrew in 1992, the third most expensive event in recent history. That event had the archetypal elements leading to failure: political infighting, dismal preparation and planning, prolonged confusion about how to respond to such an extensive catastrophe, and astonishingly poor coordination among levels of government, nonprofits, and the private sector (Birkland, 2006; Fitzpatrick, 1999). It is fortunate that Florida's performance in 2004 was remarkably different (Wang & Kapucu, 2008).

The Nature of Leadership in Catastrophes

Leadership has similarities at the most generalized level, but the demands and competencies needed to meet those demands vary greatly in specific contexts (Bass, 1990; Yukl, 2002). Furthermore, because leadership covers so many types of responsibilities, it is relatively easy to define it broadly by saying that great leaders get things accomplished, influence people effectively, induce necessary change, and so on (Van Wart, 2003). However, the specifics vary by the level of the leader (supervisor vs. agency head), the type of field (financial accounting vs. service provision), the stability of the environment (rising revenues vs. a financial crisis), the number of stakeholders involved in making key decisions (strong executive decision making vs. the requirement for massive public and political input), and so forth (Hunt, 1996; Van Wart, 2005). So it is with leadership in emergency and disaster management; the generalities of leadership apply but the specifics vary greatly by situation. Extrapolating from the leadership literature and, in particular, from the literature looking at leadership in crises (Barton, 2007; Boin, 't Hart, Sterm, & Sundelius, 2005; Coombs, 1999; Erickson, 2006; Ulmer, Sellnow, & Seeger, 2006), four principles apply to leadership in catastrophic management in public sector natural and man-made catastrophes.

First, leadership in catastrophic events is often as much influenced by an individual's effectiveness in working in networks as it is by their narrower hierarchical parameters. Networks dealing with catastrophes (e.g., the National Response Plan [NRP]¹) include the various levels of government that must coordinate effectively (federal, state, and local) as well as the other sectors (nonprofit/philanthropic and private). This complex environment requires different types of authority bases: legal, voluntary, and contractual. There are special challenges in disseminating information, coordinating financial–material transfers, and dividing up responsibilities and authority. Leaders who are only competent in their own organizational environment but are largely oblivious to the network and lack the competencies to interact rapidly in this environment are invariably far less effective, especially at peak demand times when the pressure on leaders to act quickly is acute.

Second, leadership of catastrophic events is as much political as administrative (Ward & Wamsley, 2007). Political leaders must have the will to build systems that may not be truly tested for many years because of the uncertain cycle of catastrophes. They must lead the way in setting overarching structures, reporting chains of command, selecting chief executives, providing annual appropriations, and so on. They also become highly involved in the events themselves—generally after long periods of inattention—as they are called on to provide focused policy leadership (e.g., special funding, requests for assistance) and expected to act as spokespersons for the public interest and provide public succor. On the other hand, administrative leaders (at all levels) must actually conduct the mitigation, preparation, response, and recovery cycle. This includes providing routine expertise as well as providing the extraordinary efforts, motivation, creativity, strategic planning, and so on that catastrophic conditions demand at their height. Few public policy areas require this degree of interaction with the exception of military operations, which share some (but not all) of the same situational leadership factors (Hunt, Dodge, & Wong, 1999). This study does not try to disaggregate political and administrative leaders, but it does focus on the operational aspects of policies, decisions, and implementation of both types of leaders.

Third, the numerous competencies required of leaders managing catastrophes are no less broad than all leaders in guiding the gamut of organizational responsibilities. Figure 1 identifies 37 competencies commonly associated with administrative leadership (Van Wart, 2005). However, as in all situations, certain competencies take on critical importance. Finally, the leadership competencies of particular importance that emerge from this study are those that emphasize crisis management and those dealing with complexity. They include decisiveness, flexibility, informing, problem

Figure 1
37 Competencies Commonly Associated With Administrative Leadership (Both Personality Based and Behaviorally Based)

<p>Leader Characteristics</p> <p>Traits</p> <ol style="list-style-type: none"> 1. Self-confidence 2. Decisiveness 3. Resilience 4. Energy 5. Need for achievement 6. Willingness to assume responsibility 7. Flexibility 8. Service motivation 9. Personal integrity 10. Emotional maturity <p>Skills</p> <ol style="list-style-type: none"> 1. Communication 2. Social skills 3. Influencing and negotiating 4. Analytic skills 5. Technical skills 6. Continual learning <p>Leader Behaviors</p> <p>Task-oriented Behaviors</p> <ol style="list-style-type: none"> 1. Monitor and assess work 2. Operations planning 3. Clarify roles 4. Inform 5. Delegate 6. Problem solving

(continued)

Figure 1 (continued)

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7. **Manage innovation and creativity**
 - People-oriented Behaviors**
 1. Consult
 2. **Plan and organize personnel**
 3. Develop staff
 4. **Motivate**
 5. **Manage teams and team building**
 6. Manage personnel conflict
 7. Manage personnel change
 - Organizational Behaviors**
 1. **Scan the environment**
 2. **Strategic planning**
 3. Articulate the mission and vision
 4. **Network and partner**
 5. Perform general management functions
 6. **Decision making**
 7. Manage organizational change
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solving, managing change and creativity, personnel planning, motivating, building and managing teams, scanning the environment, strategic planning, networking and partnering, and organizational-level decision making. Brief descriptions of these competencies as well as a listing of some of the commonly associated subelements are provided in Figure 2.

The Anatomy of Catastrophes

So, what is the anatomy of a catastrophe, and just how can leadership make the effects of an extreme event better or worse? The outline is well known. The *trigger event* in catastrophes is one of massive size or immense destruction, therefore unusual in the short term, in which the emergency system itself is damaged or hobbled in terms of its ability to respond in normal ways. *Mitigation* includes those efforts that help prevent or reduce the effects of the event, such as building sturdy levees or creating and enforcing codes requiring that homes be built on stilts where flooding is likely. *Preparation* for emergencies might include calls for evacuation or staging

Figure 2
A Brief Description of 12 Competencies Especially
Critical in Managing Catastrophes

1. *Decisiveness* is the ability to act relatively quickly depending on circumstances without excessively damaging decision quality. Its major subelements are willingness to make unilateral decisions, ability to act quickly in a crisis, and ability to remain calm in a crisis.
2. *Flexibility* is the ability to bend without breaking and to adjust to change or be capable of modification. Its major subelements are adaptability and alertness to alternatives.
3. *Informing* is providing critical information to subordinates, superiors, peers, or people outside the organization. Its subelements include facilitating coordination of work, shaping the mood about work and strategies that function best, and serving a public relations function.
4. *Problem solving* is identifying, analyzing, and handling work-related problems with subelements being recognizing, investigating, and resolving problems.
5. *Managing innovation and creativity* is establishing an environment that allows and encourages flexible solutions and change, and fosters timely implementation of innovation. The subelements are creating, acquiring and transferring knowledge and modifying organizational behavior to reflect new or unique circumstances.
6. *Planning and organizing personnel* is coordinating people and operations and ensuring that the competencies necessary to do the work are available. Subelements include scheduling and matching talents to work and problems.
7. *Motivating* is enhancing the inner drives and positive intentions of subordinates to perform well. Subelements include providing incentives, as well as providing inspiration that encourages work for the organization goals regardless of personal benefit.

(continued)

Figure 2 (continued)

8. *Team building* is creating and supporting teams that are both in-place functional groups as well as teams/groups that cross divisional, organizational, and even sectoral lines. Subelements include creating and supporting teams as well as enhancing identification with the work, fostering intramember cooperation, and achieving esprit d' corps.
9. *Scanning the environment* is gathering and critically evaluating data related to external trends, opportunities, and threats on an on-going and relatively informal basis. The main subelements are broad and informal monitoring and consulting outside the organization, identifying external trends and opportunities, and investigating the most significant trends (opportunities or threats) in greater detail.
10. *Strategic planning* is making disciplined efforts to produce fundamental decisions and actions that shape and guide an organization. It includes defining the mission and purposes of the organization, defining specific objectives, clarifying and selecting among alternatives, and selecting detailed goals and concrete measures.
11. *Networking and partnering* is developing useful contacts outside the leaders' direct chain-of-command and is therefore primarily voluntary but substantive. Subelements include sharing information across organizational lines, providing mutual support and "favors" among agencies or with outside groups, and sharing responsibility and benefits (partnering) with other outside entities.
12. *Decision making* is making major organizational choices by understanding the fundamental values and factors involved, and by structuring an appropriate decision framework. Subelements include understanding the factors in the decision environment related to complexity, information availability, type of decision, and need to involve others, as well as understanding the competing values involved such as efficiency, effectiveness, legality, etc.

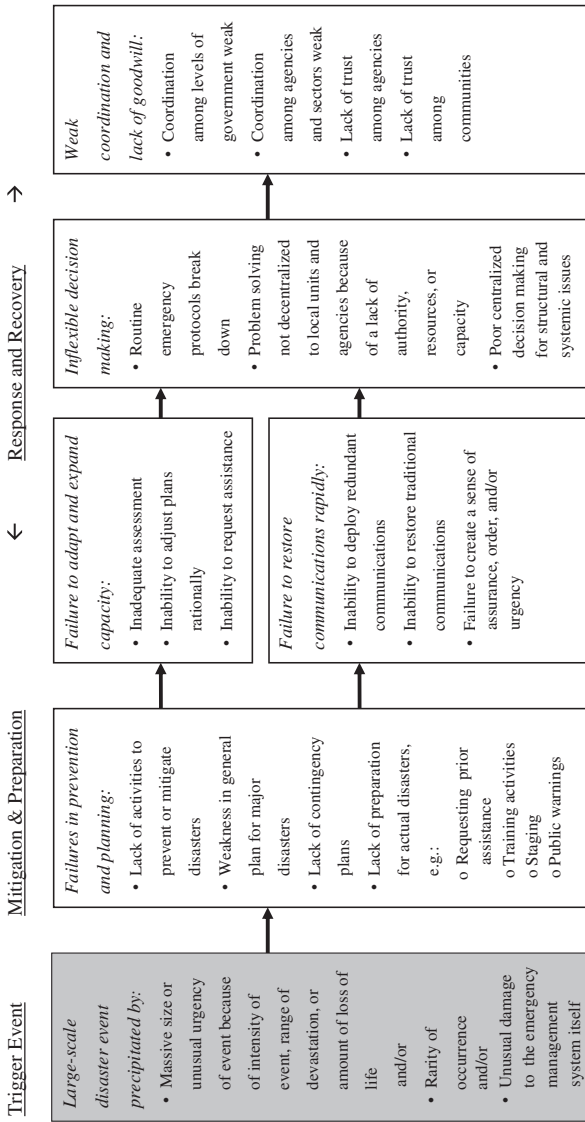
supplies outside the immediate disaster area. *Response* includes the immediate emergency activities provided such as search and rescue, temporary shelter, medical assistance, martial law, and so on. *Recovery* efforts include reconstruction activities, relocation, and financial assistance (Auf der Heide, 1989; Dynes & Quarantelli, 1977; Perry, 1985; Waugh, 2000).

Good performance in catastrophic events is far more demanding because of the need to rebuild or strengthen the emergency management system itself while responding to the needs of victims and communities. In routine emergencies and disasters, preestablished plans and protocols allow for surgical coordination, hyperefficiency, and precise role clarity, which in turn provide the rapidity of response so essential for high performance. By definition, in catastrophic events, expected means of response are impaired: transportation, communication, emergency personnel themselves, and so on. Furthermore, the plans and preparations for catastrophes are overwhelmed, poor, or completely lacking. In badly managed catastrophes, as those suffering and in need are waiting, those providing emergency assistance are trying to figure out levels of command, how to communicate, where resources are and how to get them to the affected area, what and how to prioritize, and how to coordinate an avalanche of volunteer assistance when the first responders are themselves confused and disorganized (Drabek, 2003; Kapucu, 2005; McEntire, 2002). Figure 3 provides an outline of the major elements maximizing the scope of catastrophes. It is an anatomy of weaknesses and failures in responding to the duality of providing efficient, preplanned services while creatively but rapidly reorganizing the emergency system, and centrally overseeing systemic problems while empowering localized problem solving during extraordinary conditions.

This article uses the overall emergency management of Katrina in relation to New Orleans as the case study of what not to do. Figure 3 also provides the structure of the remainder of the article: trigger event (background), failures in prevention and planning, failure to adapt and expand capacity, failure to restore communications rapidly, inflexible decision making, and weak coordination and lack of goodwill.

Our data come not only from the excellent in-depth government reports that provided examples and analysis but also from a comprehensive review of the New Orleans City Emergency Management Office situation reports, Federal Emergency Management Agency (FEMA) national situation reports, and a review of the *New York Times* coverage including more than 200 articles during a 3-month period immediately leading up to the event and covering some of the long-term recovery efforts.

Figure 3
Anatomy of a Catastrophe: The Major Elements
Maximizing the Scope of Catastrophes



Trigger Event

Before discussing the nature of the particular trigger event in this case, a quick review of emergency management basics is useful. Emergency management normally starts at the local community level. Community capacity building refers to the means by which a community can tap into its own strengths and abilities rather than being overwhelmed by routine problems or even small disasters. Capacity building is not likely unless the community first has the assets necessary and the will to mobilize these assets (Government Accountability Office [GAO], 1993; Kretzman & McKnight, 1993; Mileti, 1999; National Academy of Public Administration, 1993). When a community is well mobilized to address and solve its own problems, more efficient and effective results occur under routine conditions.

Thus, in the U.S. disaster management system, local governments are primarily responsible for mitigating, preparing, responding to, and recovering from routine emergencies and disasters. However, the NRP and the National Incident Management System (NIMS) are comprehensive systems that intend to improve local and national disaster response operations (Kapucu, 2006a). They require more coordinated response to nonroutine man-made and natural disasters (Department of Homeland Security [DHS], 2004a, 2004b). Thus, these systems are intended to substantially improve the environmental scanning for plausible catastrophes and the strategic planning to mitigate and respond to them. The NRP and the NIMS attempt to achieve this goal through the use of the Incident Command System (ICS) and the application of standardized procedures and preparedness measures. The NIMS promotes development of cross-jurisdictional, statewide, and interstate regional mechanisms for coordinating response and obtaining assistance during a complex incident such as a catastrophic disaster (i.e., networking and partnering; National Emergency Management Association, 2006). However, the ICS is a partial solution to the problem of how to build community capacity in response to a disaster. The effectiveness of response operations depends not only on characteristics of the disaster but, very important, on the collective behavior of responding agencies and, therefore, group decision-making capacity (Tierney, Lindell, & Perry, 2001).

The NRP provides a structure in which local governments should be prepared to sustain themselves for up to 72 hours before federal aid can reach the disaster area. During that time, because of the extensive and unique circumstances, there are tremendous demands for local emergency leaders and personnel to engage in problem solving by being flexible in deviating from standard protocols and to find innovative solutions to unexpected situations.

If a local government needs assistance in preparation for or response to a disaster, it is their responsibility to request assistance from their state government. In the event that a state government needs assistance, it must request such assistance ahead of time from the federal government (DHS, 2004b). Under the Stafford Act, a governor's request can lead to the president declaring either an emergency or a major disaster, the latter of which provides more federal resources to be allocated without legislation (GAO, 2006d). In other words, there needs to be decisiveness at all levels to ensure that the alacrity of external support is provided in time-sensitive situations. On average, the president declares about 10 emergencies and 40 major disasters per year; 2005 was an exceptional year, with 67 emergencies and 45 major disasters. Large catastrophes inevitably require detailed legislative appropriations; in the case of Katrina, the federal tab was approximately \$81.6 billion (Congressional Research Service, 2006).

The NRP aims to become more than the sum of its parts. The NRP proposes a large-scale response system made up of various federal agencies and departments and the American Red Cross, as did the Federal Response Plan that it replaced. But, response operations under the NRP also include state and local public agencies, as well as private, and nonprofit organizations. These emergency response teams working in different jurisdictions and sectors need to be linked together by common information technology and a unified culture (e.g., the planning and organization of personnel). Frequently in a large-scale disaster response, many responding organizations have not met or worked together before (Corbacioglu & Kapucu, 2006; International City/County Management Association [ICMA], 2006), and thus, it is not unusual for response systems in catastrophic situations to be somewhat loose and chaotic. However, when these organizations come together in response to a shared risk from a natural or man-made disaster with a strong capability to interact, share information, and work together (Comfort, 1999; Ink, 2006; Kettl, 2004; Ostrom, 1990), the level of success is exponentially increased. Multistate training exercises are facilitated by FEMA to encourage systems linkages prior to the event (e.g., team building), as well as identify systems deficiencies.

When successful, the overwhelmed local emergency response system is quickly reinforced, the various agencies involved are motivated to work together and adjust contingency plans with alacrity, and the public is informed of the planning and is confident of the response capacity.

Hurricane Katrina struck Louisiana on August 29, 2005, and Rita hit land on September 24, both as Category 3 storms. They not only devastated New Orleans and Louisiana but created damage from Texas to Florida. The

hurricanes caused more than 1,300 deaths, displaced more than 700,000, and destroyed nearly 300,000 homes, and between 50,000 and 100,000 households were still displaced 6 months later (GAO, 2006b, 2006d; Office of Inspector General [OIG], 2006). They caused the most property damage in U.S. history—nearly \$100 billion (Townsend, 2006). Evacuees were placed across the country.

What is the regularity with which storms hit New Orleans and what is their strength? New Orleans has been affected by tropical storms and hurricanes approximately 30 times since 1900. It has been hit by approximately 8 hurricanes directly (within 40 miles), but even so, it had not been hit with Category 3 winds (although some storms had Category 3 landfalls) for several centuries (Dyson, 2006). Nonetheless, Category 2 winds had damaged the city in 1901, 1909, 1915, 1947, 1965, and 1998. All of these caused some degree of flooding, but none as extensive as an 1893 storm that killed 2,000 in the state. The U.S. mainland has been hit by slightly more than 60 Category 3, 4, and 5 storms since 1851 (U.S. National Hurricane Center, 2006), with more than a quarter of these hitting Louisiana (13, 4, and 1, respectively). Thus, although a direct Category 3 hit had not happened, its likelihood was extremely high in the long term, and it had been much predicted, especially after Hurricane Georges in 1998, which was considered a near miss.

The damage to the emergency management system itself was extensive. Approximately 80% of New Orleans was flooded after Katrina because of two levee breaches caused by the winds and storm surge. This incapacitated transportation and emergency operations centers such as police and fire stations, resulting in the (eventual) total evacuation of the city, including the vast majority of emergency workers. Landline telecommunications were generally interrupted for months.

In sum, the catastrophic event was triggered by an unusually large (especially in terms of deadly storm surge), but not unusually severe, hurricane that affected most of the Gulf Coast. The event killed more than 1,000 in New Orleans itself and damaged or destroyed whole neighborhoods in the city, such as the 9th Ward. The flooding completely overwhelmed the local response effort, and the range of the destruction overwhelmed the national response as well (FEMA, 2005; NYT, September 5, 2005).

Failures in Prevention and Planning

The leaders of emergency management systems ensure that mitigation and preparation actually take place before the trigger event, although for our

model (in Figure 3), we present them as a fact after the event. That is, failures in prevention and planning tremendously exacerbate the scope of disasters, often crippling effective response and recovery efforts. Good catastrophic management systems have invested in mitigation activities, provided robust general plans, thought through the contingencies necessary in catastrophic events, and made concrete preparations for an event based on these plans (Bazerman & Watkins, 2004; L. Clarke, 2006; GAO, 2006a; Schneider, 1992, 1995). There are certainly innumerable competencies that are required, but which are the most critical ones that, if lacking, lead to poor response when catastrophes are brewing? We will see in our analysis that leaders were lacking the necessary competence in environmental scanning, strategic planning, networking, and personnel planning in the mitigation and preparation cycle.

Numerous activities could relate to mitigation of the disaster in New Orleans. More homes could have been built on stilts, select roads could have been raised, select low-lying neighborhoods could have been converted to other uses, and so on. The most obvious and politically practical option was ensuring the integrity and capacity of the levee system in the city. The weaknesses in the New Orleans levee system had been well-known since the extensive flooding that occurred during Hurricane Betsy. Although some improvements had been made after Betsy, these were outweighed by the extensive deterioration in the levee system and the continued sinking of the city. Furthermore, the levee system was never created to do more than hold back an “average” hurricane with Category 2 winds and Category 3 surge. It was simply a matter of time before New Orleans’s luck ran out. Indeed, a famous premonition occurred less than a year earlier after Hurricane Ivan missed the city. Shirley Laska (2006) wrote—with startling accuracy—in the *Natural Hazards Observer*,

New Orleans was spared, this time, but had it not been, Hurricane Ivan would have . . . caused the levees between the lake and the city to overtop and fill the city “bowl” with water from lake levee to river levee, in some places as deep as 20 feet. . . . Recent evacuation surveys show that two thirds of non-evacuees with the means to evacuate chose not to leave because they felt safe in their homes. Other non-evacuees with means relied on cultural traditions of not leaving or were discouraged by negative experiences with past evacuations. Should this disaster become a reality, it would undoubtedly be one of the greatest disasters, if not *the* greatest, to hit the United States, with estimated costs exceeding 100 billion dollars. Survivors would have to endure conditions never before experienced in a North American disaster. Hurricane Ivan had the potential to make the unthinkable a reality. Next time New Orleans may not be so fortunate.

This is not an isolated problem. As evidenced by the cutting of funds to renovate and strengthen the levees in New Orleans, there has been a lack of support in the federal budget for emergency preparedness. The Government Performance Project of 2005 evaluated and graded all 50 states on their ability to manage money, people, information, and infrastructure. An examination of the infrastructure grades is telling, and alarming. Twenty-one states, including the Southeastern states of Louisiana, Mississippi, Georgia, South and North Carolina, and Alabama, received grades of C or below on their ability to manage infrastructure (Kettl, 2005).

Weaknesses in the general emergency plan were extensive at the national and local levels. Most fundamentally, the current national response system (instituted after September 11) was not well understood at any level of government—the FEMA director himself had not been through all the required training to understand it (U.S. House of Representatives, 2006). Furthermore, the post of Principal Federal Official (PFO) was not filled during Hurricane Katrina (Louisiana Office of Homeland Security and Emergency Preparedness, 2006; Walker, 2006). Thus, there was an incredible weakness in the chain of command in and around New Orleans in terms of who was authorized to make emergency decisions. Locally, the most glaring planning problem was that the immediate responsibility of maintaining the levees was diffuse at best, and appalling at worst. Numerous local levee boards worked alone or at cross-purposes, with frequent reports of weakened conditions going unaddressed; state and federal oversight were lacking even though the consequences of catastrophic failure were known to fall back to state and federal authorities (U.S. House of Representatives, 2006).

Because of the likelihood of flooding, a variety of contingency plans were necessary. Foremost was the need to evacuate the city. Although evacuations occurred well in other states, the mayor and governor of Louisiana delayed ordering mandatory evacuation until 19 hours before landfall. This left more than 100,000 in the city, which resulted in enormous loss of life and dangerous rescues. A particularly glaring environmental scanning problem was the lack of use of storm information, especially because the quality of the weather prediction was nearly perfect (GAO, 2006c) and personal warnings were made to leaders at every level by the weather service. Because successful evacuation was assumed, no planning was done for those housed in the city. The oversight of contingency plans for the hospitals, senior housing complexes, and related social services for highly dependent people was nearly absent, allowing many of these organizations to decide to “weather the storm.” Evacuations of these individuals often

proved highly problematic, and many died because of the inability to cope with the adverse conditions they faced (Dyson, 2006). The lack of transportation for poor and vulnerable citizens was a tragedy visible on the national media throughout the long ordeal (Litman, 2006).

A key element in being prepared to handle major disasters is the cross-jurisdictional training exercise that allows individuals to practice unusual emergency protocols, call upon nonstandard partners, and handle nonroutine situations, as well as deal with the ramifications of slow and miscommunications. In relation to terrorist events, Congress requires the federal government to conduct periodic multiple-state training exercises called TOPOFF (as in top officials). Natural disaster simulations are less frequent and these resources have been decimated in recent years with the budget being less than 10% of what it was just a decade ago (OIG, 2006). Nonetheless, because of the concern for Louisiana being hit by a Category 4 or 5 hurricane, a major exercise was held called "Hurricane Pam." In 2004, FEMA, along with a private company, Innovative Emergency Management, conducted the Hurricane Pam exercise along with parishes in southern Louisiana. This was part of the Southeast Louisiana Catastrophic Hurricane Planning Project, an effort to address the complexities involved in responding to a hurricane in such a vulnerable area as Louisiana (Fairley, 2006). This exercise was successful in identifying many of the likely effects in the event of a Category 3 hurricane, as well as capabilities that would be needed, such as disposing of large amounts of debris and providing shelters for thousands of evacuees. The exercise involved more than 300 federal, state, and local government employees, including responders and planners. However, in terms of implementation of recommendations, the exercise was woefully underutilized and insufficient: The planned follow-up exercise in 2005 was not conducted because of lack of funding, many lessons learned during this exercise were not implemented during Hurricane Katrina, and although very helpful, Hurricane Pam disregarded most prelandfall issues (preparation) and overlooked a number of significant postlandfall issues (U.S. House of Representatives, 2006).

Staging in an emergency places necessary resources close enough to the anticipated disaster but, it is hoped, far enough away or well enough secured to avoid damage (Kapucu, 2007). Major disasters quickly overwhelm state and local capacities and require federal assistance, with Katrina being a prime example of this need. FEMA certainly had predeployed some supplies (primarily food, water, and ice) throughout the South, yet the problems with pre- and postdeployment were manifold. There were not enough supplies for even the initial requests, requiring local FEMA

officials to go into the commercial market without prearranged contracts. By September 2, the New Orleans director of Emergency Preparedness, Joseph Matthews, was begging for supplies in the national press (NYT, September 2, 2005). Deployments of supplies that existed were chaotic and slow and frequently overlooked locations of greatest need. In a typical example of incompetence, FEMA turned away three truckloads of water donated by Wal-Mart and prevented the Coast Guard from delivering fuel (NYT, September 5, 2005).

Enormously critical to preparedness in hurricanes are public warnings that are taken seriously, but the public does not always heed them unless special efforts are made (Auf der Heide, 1989). Approximately 100,000 people remained in New Orleans, ignoring the mandatory evacuation. According to a poll conducted by the *Washington Post*, more than half of evacuees admitted that they could have evacuated New Orleans before Katrina made landfall but chose to stay, oblivious to the extensive damage that occurred during Hurricane Betsy 40 years before. The majority of these evacuees claimed that they did not believe that Katrina would be so devastating. Yet, almost entirely lacking were the house-to-house warnings so common and effective in coastal areas, because of a lack of planning, necessary time after the late declaration of mandatory evacuation, and effective use of resources (police and firefighters).

In summary, the U.S. House of Representatives's report is called *A Failure of Initiative* because the event was predictable and should have been relatively manageable. Weak environmental scanning, sloppy strategic planning, weak networking, and the poor deployment of personnel all exacerbated the event. The most fundamental element of mitigation—the levees—was left virtually unattended; the new federal general plan was poorly understood at all levels including by the director of FEMA, the governor, and the mayor; and key federal personnel were either not in place or poorly trained about protocols and responsibilities. Obvious contingency issues such as detailed evacuation plans left enormous swaths of details unaddressed, and actual preparations in the face of the impending event were late, poorly coordinated, poorly staged, and poorly communicated to a public that was unaware of the likelihood and magnitude of the disaster.

Failure to Adapt and Expand Capacity

The U.S. House of Representatives (2006) report roundly criticized that the “response plans at all levels lacked flexibility and adaptability” (p. 1) and, indeed, that they could not understand “why situational awareness was

so foggy, so long” (p. ix). These matters worsened with inadequate assessment during and immediately after the event. Leadership competencies in short supply here included a lack of environmental scanning and strategic planning, inability of organizations to interact and cooperate (team building), poor flexibility at all levels (with many notable exceptions at the local level, fortunately), and bad decision making among executives at all levels of government and sheer absence of coherent decision making as a system.

For example, the levee boards are charged with monitoring the levees for damage and breaks, especially critical during the actual storm surge. However, many of the levee boards failed to keep a watchful eye even after the worst of the surge was over (U.S. House of Representatives, 2006). Because flooding was not immediately apparent, there was a strong initial sense that the “bullet had been dodged again.” In fact, it had not been. Further compounding this problem at the federal level was the lack of good advice for the president and the directors of the major emergency management agencies (FEMA and DHS). There was also substantial evidence that the federal directors did not heed the more dire warnings of their more vocal subordinates (OIG, 2006).

There was a tremendous failure to adjust plans rationally, especially at the federal level, which is only activated in significant disasters. It is certain that a prominent issue was the structural placement of FEMA itself and its status as a subordinate agency within the DHS. FEMA’s heyday was during the Clinton administration, following the Hurricane Andrew debacle, when the agency had cabinet status and top-notch administrative talent. More recently with the emphasis on terrorism, the agency has lacked direct presidential access and coped with numerous political appointees who lack basic emergency management background or training (including the agency director). Many complained that the use of federal funds by state and local governments is too restricted, and focused on terrorism, while ignoring other, more common hazards (Latham, 2005).

A key function of good emergency management is to request assistance before, during, and after a major event. Such resources may expand capacity but also often require redeployment. Because of lack of training of local, state, and federal officials with the new NIMS and ICS, requests were very slow in being made. Federal officials failed to take a proactive stance. In particular, it was quickly apparent that local law enforcement was overwhelmed and that federal support was needed. Yet, the hesitation to get assistance here, however well meaning of local sovereignty, proved disastrous. Ultimately, the federal government sent in contingents of 30,000 and

7,000 active duty troops, which were augmented by 40,000 National Guard troops (NYT, September 1 & 4, 2005). A local problem that could have been facilitated by the Army Corps of Engineers was the arrangement of contracts for levee repair, as well as for debris removal, before the event. These contracts were not in place, requiring extensive haggling “as Rome was burning” (NYT, September 4, 2005).

Sometimes there is a significant problem with the willingness to loan or provide resources on the part of capable organizations, especially without lengthy mutual aid agreements or a history of working together. This was generally not true in the case of Katrina. In fact, the problem was the reverse; it was the inability to absorb the massive amount of resources necessary fast enough in crushed transportation and communication systems with poor contingency plans. An example of the inability to cope, related to assistance, was when the director of FEMA discouraged other emergency management agencies from sending assistance unless specifically requested to do so (NYT, August 30, 2005).

Failure to Restore Communications Rapidly

During a catastrophic emergency, by definition, there will be a serious breakdown in communication; both telecommunications and information technology infrastructures will be disrupted (Graber, 2003; Kapucu & Van Wart, 2006). The longer this disruption, the more decision making will be based on inaccurate information and the more disjointed response efforts will become. Mayor Nagin of New Orleans and his staff did not have communication for 2 days after the storm hit—an extraordinary amount of time in responding to a crisis when people are stranded and dying. Unable to establish a communication system, Nagin sent messages through CNN reporters and eventually was able to use an Internet telephone account set up for personal use by a staff member (Kettl, 2005). The GAO’s report on Hurricane Katrina concerning preparedness, response, and recovery noted that communications and coordination among first responders was lacking, despite previous recommendations in GAO reports issued in 2003 and 2004 (GAO, 2006b). In a major disaster, the normal means of communication—cell phones, landline phones, the Internet, and even radio frequencies—will often be inoperable. Emergency plans for catastrophes assume that primary communication media will be rendered inoperable and plan ahead for alternate methods. This did not occur during Katrina at any level.

The management of the media and relaying messages to the public are important aspects of disasters that need to be planned. The media can help or

hinder disaster response by providing a sense of urgency, assurance, and order. Mayor Giuliani's quick response, confident demeanor, and firm hand won international praise in the New York September 11 disaster. On the other hand, the initial lack of urgency was most keenly felt at the federal level by the lack of early involvement by the president and Secretary Chernoff. The president failed to return from his vacation until several days into the disaster (NYT, September 1, 2005). The secretary was roundly criticized for his hands-off approach by FEMA's own inspector general (OIG, 2006).

The lack of assurance was most visible in the immediate confusion in the chain of command and the intergovernmental squabbling that occurred. Within 5 days of the disaster, the *New York Times* blasted the federal government in an editorial entitled, "A Can't Do Government" (NYT, September 2, 2005). That same day, various New Orleans officials were using the media rather than the telephone to call for more coordinated assistance from the federal government (NYT, September 2, 2005). The disagreements among levels of government also included the state government (NYT, September 23, 2005). The local paper demanded the resignation of FEMA Director Brown a week after the storm hit, and shortly thereafter, he did (NYT, September 7 & 13, 2005). Even the repopulation of the city led to public disagreement by the mayor and president in a time when unity is optimal (NYT, September 20, 2005). This bickering among officials was extraordinarily damaging to the sense of cohesion that energizes the emergency response system.

Finally, the sense of order took an incredibly long time to restore, as was reported by the media in their pervasive coverage. For example, after Katrina, the media saturated the news with images of looters, dead bodies in the street, and people trapped on their roofs. Intense images on the news can sway the public, as well as emergency responders. In New Orleans, the media coverage of looters pressured police to stop the looting, although initially, this may not have been the first priority for a police force where search and rescue have such urgency (Swope & Patton, 2005). In sum, there was a failure to plan for predictable communication breakdowns with alternative communication systems, and traditional systems remained inoperable for extended periods. Furthermore, the use of mass communications more frequently conveyed a lack of focus on the part of leaders as well as disorder and disharmony among those charged with leading the stricken communities back to normalcy. The most notable leadership competencies that were lacking were strategic planning (providing contingency plans for alternative communication systems), problem solving and lack of creativity

after the systems did collapse, and lack of motivation/inspiration by leaders to either the public or emergency responders themselves.

Inflexible Decision Making

In well-organized disaster response situations, the vast array of emergency services function in standard, well-rehearsed, and universally accepted ways. Thousands or hundreds of thousands of victims need medical assistance, evacuation services, and basic services such as food, clothing, and shelter. Yet, in trying to reorganize emergency workers and volunteers, it is easy for this timely and standardized assistance to be severely disrupted. Catastrophes require leaders to be flexible in the decision making, to be decisive, and to empower local responders to problem solve while effectively and jointly making good organizational/system decisions. Numerous counterexamples profile a decision-making system at its weakest.

The delay in calling for a mandatory evacuation of New Orleans by the mayor and governor was a key element in escalating the disaster. Although they commendably warned the public in graphic terms of the likely prospects as the hurricane barreled toward the city still at Category 5 status, they failed to order the mandatory evacuation until 19 hours before the event. And although the contraflow traffic plan worked well in handling the massive exodus of those with the means to leave, it largely abandoned those without means, which left an enormous number of people stranded. Last-resort, publicly provided evacuation took people only as far as the Superdome for shelter. In stark contrast (U.S. House of Representatives, 2006),

officials in adjoining Plaquemines Parish cited their early declaration of a mandatory evacuation as the key to achieving a high evacuation rate. Plaquemines Parish President Benny Rousselle (according to Plaquemines Parish Sheriff Jiff Hingle) declared a mandatory evacuation on television at 9:00 a.m. on Saturday, August 27. . . . On Sunday, August 28, Plaquemines Parish Sheriff's deputies went door-to-door to warn people to evacuate and to identify those who needed help doing so. (p. 112)

Nearly 98% of the parish was evacuated and only three deaths occurred.

A quasi-governmental example comes from the American Red Cross, a Congressionally chartered organization. A Congressional report stated that, all too often, the agency had been holding back emergency workers for prolonged periods for reasons of safety, while sending in public relations personnel for video coverage for fundraising purposes (NYT, December 30, 2005).

In major disasters, routine and area-specific problem solving must still occur at a localized level if at all possible; the conditions are better understood and central command centers are already overwhelmed. One of the major challenges, however, is when law and order is compromised and martial law prevails, especially when martial law is federally enforced as it was in New Orleans under Vice Admiral Thad Allen. Order in these situations can take precedence over emergency response, requiring permission for movement, checkpoints, and restrictions on people and supplies allowed in. Numerous cases of highly trained emergency personnel being kept out of the area for extended periods were reported (ICMA, 2006; Swope & Patton, 2005).

The need for good centralized decision making is also paramount in disasters as leaders must make weighty decisions about how to handle the effects of nature with the resources at hand. Major decisions with regard to the immediate preparation and response include evacuation plans, reorganizing the command structure, and staging the vast amount of direct assistance and relocation necessary. One important centralized decision that was clearly suboptimal was the decision to use the Superdome. It was selected as a shelter site to ride out the event because it had a second floor for high flooding, was able to withstand hurricane winds, and was deemed suitable for large numbers of shelter victims. However, this decision was flawed because it encouraged nonevacuation, was unprepared for the 20,000 who were housed there, and was unequipped with the supplies necessary, leading to desperate shortages within days (NYT, September 1, 2005). The conditions became a national disgrace when the squalor was revealed, and the oversight was so poor that corpses were discovered after the evacuation of the building. The day before the storm hit, food and water for 3 days for 15,000 had been delivered (yet, evacuations did not start until most victims had been in the facility for 5 days and did not conclude until September 4). Lacking in the preparations were water purification equipment on site, chemical toilets, antibiotics, and antidiarrheals. There were also no designated medical staff in the evacuation center nor an established sick bay. The few cots available had primarily been brought in by evacuees. Overall, the huge shelter operation was ideal for centralized planning but was poorly thought-out and poorly implemented.

Weak Coordination and Lack of Goodwill

Major disasters are all about developing networks and coordination because both local and state resources have been overwhelmed, and federal and major volunteer help needs to be quickly mustered and integrated, even

as private sector resources try to restore communication systems, utility systems, and other businesses as quickly as possible (Comfort & Kapucu, 2006; Goldsmith & Eggers, 2004; Hardin, 1982; Ibarra & Hunter, 2007). Disasters are made worse when coordination is poor, as it typically was during the Katrina event affecting New Orleans and was frequently altogether lacking, much to the horror of the country watching the bedlam via extensive media coverage. As the *New York Times* reported about the city 3 days after the hurricane, "Chaos gripped New Orleans on Wednesday as looters ran wild, food and water supplies dwindled, bodies floated in the floodwaters . . ." (NYT, September 1, 2005). Furthermore, because emergency networks must be both adjusted and expanded with great alacrity, the goodwill of political decision makers, emergency administrators, and communities is indispensable in rapid systems realignment and deployment of services. The leadership competencies lacking in this critical area, then, included networking and partnering, team building, and integrated decision making, as illustrated by the appalling lack of coordination and stunning lack of interorganizational goodwill.

The coordination of governments at the political level is a key ingredient of success. Much of the emergency management debacle that was seen in Hurricane Andrew was exacerbated by political hostilities among the local community, governor, and president, which made already-incompetent efforts that much worse. During the Katrina event and for several months following, Mayor Nagrin and Governor Blanco appeared on national television, making highly critical comments about the lackluster federal response (e.g., NYT, September 5, 2005). By the 3rd day after Katrina hit, "the city descended into near-anarchy, frantic local officials blasted the federal and state emergency response as woefully sluggish and confused" (NYT, September 2, 2005). The White House, secretary of the DHS, and even some members of Congress pointed to the local and state incompetence in managing their part of the responsibilities. A good example of this lack of coordination was when Governor Blanco refused to sign an agreement proposed by the White House to share control of National Guard forces with federal authorities (NYT, September 5, 2005).

The weakness of coordination among all agencies was extraordinary, partially caused by a lack of understanding of the responsibilities of governments and agencies under the new NRP. Essentially, problems included the lateness of calling the event a national emergency, the slowness and confusion of escalating it to a major disaster, and the difficult transition from the FEMA director to Vice Admiral Allen (OIG, 2006). The extensive U.S. House of Representatives review reported coordination as particularly poor (or nonexistent) between the following:

- the Homeland Security Operations Center and the White House
- the Department of Defense and the Department of Homeland Security
- the National Guard and the Department of Defense
- the Coast Guard and other responders
- the Army Corps of Engineers and prelandfall contractors
- the Northern Command and the states affected by the disaster
- the Joint Force Katrina itself
- the New Orleans Police Department and other law enforcement resources
- the Veterans Affairs Medical Center and other emergency services (especially with regard to evacuation)
- the Department of Health and Human Services and the National Disaster Medical System
- FEMA and all other emergency response organizations, including the Department of Housing and Urban Development

Lack of coordination does not necessarily signify an even deeper problem: lack of trust. Lack of trust can be caused by either a concern for the competence of others or a concern about their motives. Much of the inter-governmental bickering was caused by federal officials' concerns about local competence and local officials' concern about a federal takeover and sidelining of local input. There has long been concern about local expenditures being reimbursed. For example, many local governments complain that they are not receiving the needed federal assistance. At the U.S. Conference of Mayors in 2004, 52% of 231 cities surveyed across the United States reported that they have yet to receive any money from the state-block grant program. This is a homeland security program that provides funds for first responders at the local level (Spears, 2004). These problems have occurred in the post-Katrina environment as well (Donze, 2006). A particularly shocking lack of trust was when the sheriff of Jefferson Parish claimed that FEMA officials had cut the communications lines to the county without notice and he had restored them and posted deputies to protect them from FEMA officials (MSNBC, 2005; NYT, September 5, 2005).

In addition, there needs to be grassroots cooperation and trust among communities themselves. In general, this is probably one of the greatest strengths of the disaster, where communities from across the nation pitched in by sending enormous amounts of resources as well as taking in remarkable numbers of evacuees from New Orleans and other affected areas. Among the outstanding examples were Baton Rouge, Houston, New York City, and the states in the Emergency Management Assistance Compact. Nonetheless, even here there were more problems than usual. The most

horrifying example occurred between those trying to flee New Orleans and the city of Gretna, Louisiana. Gretna used armed officers to seal off one of the last escape routes from New Orleans from September 1 through 5. Another incident occurred when authorities in St. Bernard Parish stacked cars to seal roads from Crescent City (Harris, 2005; *Los Angeles Times*, 2005).

Conclusion

By definition, catastrophic events are exceptionally large, rare, and/or cause unusual damage to the emergency management system itself (Kapucu & Van Wart, 2006). Unless emergency management systems have been as proactive as possible in implementing mitigation, providing a good overall comprehensive plan with contingency planning for unusual events, and preparing for imminent disasters, the effects of extreme events will only be amplified. Major disasters require assessments in the wake of the event, adjustments to plans, coherent requests for assistance, and a willingness to assist on the part of others. Communications are always damaged in catastrophes, so redundant systems should have been planned for while traditional systems were being restored. Public communications should be able to create a sense of assurance, order, and yet, urgency. Decision making must use the efficiency of routine emergency protocols at the local level, where a great deal of context-specific problem solving will take place. Balanced with this is the need for centralized decision making to reorganize aspects of the emergency management system that have become inoperable and the need to redeploy resources in new ways. Finally, coordination is critical during a catastrophe, yet, at no time is it more difficult to achieve. As important as coordination is trust among agencies and communities, so that they are not working at cross-purposes in zero-sum activities.

These conditions require strength in particular leadership competencies, although many others are needed that are not highlighted in this study. Chief among the competencies that are necessary are leaders who are both decisive and flexible in dealing with unique circumstances. Leaders must take seriously their responsibilities to scan the environment and plan accordingly. Networking and partnering, so critical in massive relief efforts, must largely be in place prior to catastrophes so that the actual team building is taking place over hours rather than days and weeks. Decision making must be based on good scanning and planning, but just as important, it must ensure that it occurs at the proper level—systems, organizational, or front-line. For example, most problem solving and creativity occur in localized

settings, whereas the decisions about deployment of national, private sector, and philanthropic resources, especially the planning and organization of external personnel, most often take centralized coordination. Finally, leaders must be able to inform and motivate both emergency responders and the public at large that they are indeed in charge, competent, and truly focused on the public good.

This study does not review the thousands of instances of competence, bravery, humanity, and creativity that occurred before, during, and after Katrina, not because such instances were rare but because these actions were not part of a systematic pattern. Because the leadership of the emergency management system was so weak, these acts are, indeed, all the more important but are not our focus here. Here, our focus is to articulate a model of what to do, and the critical leadership competencies necessary, essentially by illustrating a case study of doing everything wrong. It is unfortunate that in the case of Katrina and New Orleans, the overall negligence, incompetence, and egotism demonstrated by the leaders in charge of the emergency response system only seemed to make matters worse.

Note

1. The National Response Plan (NRP) of 2004 was replaced with the National Response Framework (NRF) in January 2008. The framework is still under review and discussion. Emergency managers at all levels are currently being trained. We do use the NRP in our analysis as it was in effect during the catastrophic response operations in 2005.

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