

## QUICK READ SYNOPSIS

Shelter from the Storm:  
Repairing the National  
Emergency Management System  
after Hurricane Katrina

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The Political Costs of Failure  
in the Katrina and Rita Disasters

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*Background*

Hurricanes Katrina and Rita raise serious questions concerning the capacities of local, state, and federal governments to deal with major hazards and disasters. Several questions arise:

- How do we build the infrastructure, facilitate economic recovery, and move people into permanent homes?
- How will local, state, and federal governments help businesses, colleges, nonprofits, and families?
- How will we repair the flaws in the nation's support networks for the poor, elderly, and disabled that were revealed by the disasters?
- How can we deal with the racism that contributed to the slow response for African American communities?
- What flaws delayed the dispatch of emergency responders?
- How should "FEMA cities" sites be chosen for those who lost homes?
- How should we recruit and house workers for rebuilding?

Our system for dealing with disaster has to be repaired quickly.

- Making Fixes*
- State and emergency management officials strongly oppose expanding the use of the military in disaster management.
  - Public administration experts say FEMA should be removed from the U.S. Department of Homeland Security (DHS).
  - There is concern about how federal officials interfered with state disaster responses by delaying deployment of the National Guard.
  - Some argue that collaborative structures be strengthened and others argue that the command structures be strengthened to assure better control and coordination during disasters.
- The Gulf Coast*
- The vulnerability of New Orleans and the Gulf Coast were known well before Katrina—the scale of the disaster should not have been a surprise. There was
- too little regulation of coastal development to mitigate wind and storm surge,
  - too little investment in strengthening the levees,
  - too little attention to emergency planning to help vulnerable citizens and communities, and
  - too little attention by public officials and the public to the risks of a strong hurricane.
- Local Authorities*
- Local authorities are to blame for poor management of the levee system and poor decision making regarding mass evacuation and sheltering.
- Where there were plans, they were not implemented or only partially implemented.
  - Many local agencies were simply overwhelmed, often reduced to saving themselves or releasing personnel to save their own families.
- State Officials*
- State officials are to blame for being slow to understand the scale of the disaster and for the slow deployment of resources.
- Local emergency managers and first responders were left on their own.
- Federal Authorities*
- Federal authorities are to blame for the slow response to state requests for aid and for their reactive posture.
- In spite of early warnings to DHS Secretary Chertoff, federal officials waited for states to request help rather than being proactive in assisting state officials.
  - Once the need to act was recognized, federal agencies were slow to aid stranded victims, slow to rescue those trapped in homes and hospitals, slow to recover bodies, and slow to deliver FEMA trailers.
  - The networks of governmental and nongovernmental organizations in the national emergency management system were in disarray.
  - Volunteers were encouraged to wait for officials to tell them where the greatest needs were, and some waited for weeks.
  - The lack of understanding of their emergency management roles was evident at all levels—officials failed to identify and address problems that were obvious to experts in professional disaster response.
- NOTE: Had a major earthquake or terrorist attack struck during those weeks, the response capacities of the federal government might also have been overwhelmed.
- Basic Problems*
- While partisan differences are driving some of the investigations, there appears to be consensus on some of the basic problems.
- Confusion over federal, state, and local roles was a problem.
  - New federal procedures confused state and local officials.

- The National Response Plan (NRP) was newly adopted and not widely understood.
- Major Problem* The poor emergency response was in many respects due to the sheer scale of the disaster.
- Roads were impassable, bridges were destroyed, and victims were scattered among hundreds of communities.
  - Rescue and relief were delayed by water, downed lines, debris, and reports of violence.
  - The unexpectedly large number of people needing assistance during and immediately after the levee breaches revealed a clear divide between those who had the resources to evacuate and the very large poor population lacking resources to evacuate or even to survive until help could arrive.
  - It should always be expected that a significant percentage of the population will not evacuate for a variety of reasons and that they will not have prepared for surviving for days without food or water—many can only afford to live day to day in their normal lives.
  - Local, state, and federal governments were confused about who would take the lead even though lead responsibility rested with state officials.
- FEMA as Part of DHS* With the creation of DHS, the role of FEMA changed.
- No longer cabinet level, FEMA is dependent upon DHS for its budget, spending priorities, and mission priorities.
  - The agency is being dismantled and its parts moved into other parts of DHS where the focus is mainly on terrorism.
- Gulf Coast* The situation along the Gulf Coast did not seem as dire as in New Orleans, but that was due to lack of news coverage.
- Rescue came late, and rural areas were slow to get supplies and other assistance.
  - Local officials and emergency managers were overwhelmed and isolated and had few resources with which to help.
  - Often they had no food or water for their own personnel.
  - The slow state and federal response efforts, inadequacy of local resources, and limited availability of National Guard troops contributed to the frustration of local officials.
- National Guard* Both Louisiana and Mississippi have large numbers of National Guard troops deployed in Iraq and Afghanistan.
- Ninety-two hundred Guard and reserve troops from these states were deployed during the disaster.
  - Forty thousand more troops were brought in from all over the United States.
  - The big problem was the Guard lacked up-to-date communications equipment and had insufficient trucks and engineering equipment because that equipment was being used overseas—many units were using Vietnam-era communications equipment.
- Long-Term Plans* Long-term recovery, hampered by partisan differences, may take many years. Recommendations include
- rebuilding communities as they were before the disaster,
  - not rebuilding large parts of New Orleans or moving most new development away from the coastlines,
  - moving New Orleans to higher ground,
  - buying out flood-prone areas,

- moving port facilities and other industry farther up the Mississippi,
  - strengthening the levees, and
  - planning for long-term housing and employment of evacuees.
- NOTE: While plans may change, many likely will not return to their hometowns.

- Observations* The assumptions upon which all agencies' disaster responses were based were seriously flawed.
- A large portion of the population was much more vulnerable than officials assumed.
  - Poverty and racial distrust complicated the response.
  - Confusion with emergency plans complicated the evacuations and everything that followed.
  - Plans were not implemented or were only partially implemented.
  - State officials requested aid early on but were slow to deploy their own resources.
  - Evacuations highlighted the limited availability of gasoline along major routes.
  - Confusion over the federal role complicated the process.
    - Poor communications were an issue.
    - The expectation that federal resources would only be needed in three or four days was disastrously wrong.
  - There was a lack of effective coordination at state and federal levels.
- NOTE: For the future, local and state officials have a political, legal, and ethical obligation to address the hazards that pose serious risks to their own communities, regardless of the priorities of the federal government. Officials must act now or the window of opportunity may close as the memories of the disaster fade.

- The CEM Program* In emergency management, the standards for professional development can be found in the Certified Emergency Manager (CEM) program and the Emergency Management Accreditation Program (EMAP).
- The CEM requirements include breadth of experience, knowledge of emergency management roles, and functions and knowledge of management techniques.
  - The EMAP standards provide benchmarks for professional emergency managers and emergency programs to assure they have the tools to manage risks as well as disasters effectively.

## President Bush and Hurricane Katrina: A Presidential Leadership Study

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- Presidency Studies* The area of presidency studies involves analysis of presidential power and attempts to understand the process of presidential policy making.
- This study takes a public policy analysis, organizational management, and leadership study approach toward the Bush administration's handling of Hurricane Katrina and its effects.

*Incidents of National Significance*

A new term, “incidents of national significance,” now encompasses major disasters or emergencies declared by the president.

- Incidents of national significance under the National Response Plan (NRP) are defined as events that require coordination of federal, state, local, tribal, nongovernmental, and/or private sector entities in order to save lives and minimize damage.
- The secretary of the U.S. Department of Homeland Security (DHS) can use limited predeclaration authorities to move initial response sources—closer to a potentially affected area.
- All catastrophic incidents are considered incidents of national significance.
- Homeland security federal emergency management is focused on all-hazards management but with terrorism as the major threat.
- A presidential declaration of a major disaster or emergency activates the NRP and puts all federal, state and local agencies to work under the National Incident Management System (NIMS).

*Presidential Authority*

The 9/11 disaster centralized presidential authority, as did many catastrophic disasters before.

- Lawmakers granted the president greater powers to address crises.
- President Bush, acting on this opportunity, developed new forms of emergency management authority for his office.
- The president used this authority to put “major disasters” and “emergencies” under the terms “incidents” or “incidents of national significance”—as a result, emergency management (including FEMA) is today very much a matter of national security.
- Most of the changes reflect a preoccupation with homeland security that has had ramifications at the state and local levels.

NOTE: President Bush has had to cope with the size, complexity, and dispersion of power within the DHS—this mammoth, complex, and organizationally diffuse federal bureaucracy was less than two years old when Katrina struck. President-sanctioned reorganizations have compromised its ability to manage very large-scale, multistate disasters.

*FEMA*

The FEMA director, a de facto cabinet-level position under President Clinton, was folded into DHS, and many of the director’s top management were transferred to DHS offices that had few, if any, emergency management responsibilities.

- FEMA has lost significant visibility as well as financial and human resources in the reorganization.
- Its activities are now overshadowed by much larger and better funded entities within DHS—FEMA no longer centrally manages disaster mitigation and preparedness.
- Under the above weakened position, Hurricane Katrina placed extraordinary demands on the emergency management system.
- Secretary Chertoff activated the NRP for Katrina, declaring it an incident of national significance.
  - The flaws revealed may instigate changes in the NRP and the NIMS.

*Problems*

The NIMS and the NRP no longer assign many predominant emergency management duties and leadership roles to FEMA.

- Before Katrina, experts in law enforcement, port security, intelligence, border control, immigration, and transportation security saw emergency management as an activity of secondary importance.
  - This situation could not have helped federal response.

- The response of government at all levels was not equal to the magnitude of Katrina's destruction—it is now clear that a challenge on this scale requires greater federal-state-local cooperation and in some ways a broader role for the U.S. Armed Forces.
- The nation's ability to respond to megadisasters has been weakened by the post-9/11 agency realignments and the loss of cabinet status for the director of FEMA.
- The new layers of DHS bureaucracy complicated FEMA's management response to Katrina, and complicating this further was the fact that five of eight top FEMA officials had virtually no experience in handling disasters before their appointments.

NOTE: History may prove that the Bush administration's handling of FEMA after 9/11, through the period of FEMA incorporation into DHS, and during Hurricane Katrina may be one major reason federal disaster management is unable to address catastrophic natural disasters.

*Public Relations Debacle* For President Bush, Hurricane Katrina was a public relations debacle in almost all phases of the disaster. The president was perceived to have responded too slowly and ineptly.

- The president's actions disclose problems of mismanagement, slow response, poor federal-state and president-governor cooperation, and failure to provide needed relief in spite of promises made.
- The disaster revealed a president under siege who eventually apologized to the American public for the government's deficiencies.

*Federal-State Relations* DHS has broad authority to respond to catastrophes, even if it means bypassing state and local governments.

- State and local governments have been induced, often through grants, to comply with the uniformity of federal standards governing homeland security–dominated emergency management.
- The NRP has a section that outlines how the government can rapidly deploy key essential resources.
  - It explains that response activities must begin without the benefit of a detailed assessment of disaster losses and that assessment might not be available for several days.
  - Certain emergency management assets may need to be deployed before they are requested via normal NRP protocols.
  - In Katrina, Secretary Chertoff refrained from using all the powers available to him, but this may not be the case in future disasters.
- Although predisaster plans were in place and a simulated Hurricane Pam exercise had been conducted months before Katrina, the president and his disaster management leadership had great problems working with governors in Louisiana and Mississippi.

*Hurricane Wilma* A power struggle unfolded in Florida during Hurricane Wilma.

- The issue was about who is in control of recovery efforts, the state or the federal authorities.
- Governor Bush did not want federal intervention because he believes that it stifles innovation, creativity, and knowledge at the local level, but Chertoff was not taking any chances after his Katrina experience and had federal officials mobilizing in teams, and he had DHS send satellite phones to Florida.

- As Chertoff made his plans for Florida, the Fifth Army, under U.S. Northern Command (Northcom), was readied to take over the role of coordinating military assistance.
  - No one in Florida had requested Northcom's assistance, but Washington seemed to take control, and on October 18, General Clark of the Fifth Army called the Florida National Guard wanting to start flying in equipment to establish a Joint Command of federal and state officials.
  - In spite of Florida National Guard objections, federal officials announced the creation of "Wilma Command" to oversee the response.
- Craig Fugate, Florida's emergency manager, outmaneuvered the feds and immediately made Governor Jeb Bush the incident commander.

NOTE: President Bush needs to determine if federalizing disasters is worth alienating governors—the president's image, prestige, and historical legacy are at stake in the matter of disaster management.

#### *Civil-Military Relations*

The nation's experience with Hurricane Katrina highlighted the importance of the National Guard in disasters.

- However, changes since 9/11 have given the active military a greater domestic presence, and the Coast Guard, which now resides in DHS, has a much higher profile in disaster management.
- The president's plan to give the military a larger role in disaster relief faces a number of obstacles, including
  - laws against using active-duty troops for law enforcement,
  - questions about whether the National Guard is overextended, and
  - decisions about creating special military units for disasters.
- Northcom wants active-duty forces to be given complete authority for responding to disasters.
- Local and state officials fear that a federal takeover will worsen matters.
- Adding active military raises questions.
  - Should they have shoot-to-kill orders in areas where they encounter trouble or opposition?
  - Who is in charge? Is it the governor-controlled National Guard or president-directed active military?
  - What authority would governors have in military operations to address disasters?

NOTE: The government's slowness in responding to Katrina has sparked renewed interest in militarizing emergency response.

#### *Conclusion*

Hurricane Katrina tested the capacity, adequacy, and limits of administration-led disaster policy and management changes since 9/11.

- It was the supreme test of a president and his administration to effectively provide help and relief for victims and their devastated state and local governments and, thus, garner political credit.
- The Katrina disaster, perceived by the media and the public to have been badly managed, may produce political losses for the president.
- The nation is better served by those who learn the lessons of disaster management.

## Metaphors Matter: Disaster Myths, Media Frames, and Their Consequences in Hurricane Katrina

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### *Background*

Disaster research shows that both the general public and people in government and other organizations tend to believe in various disaster myths.

- Notions that disasters are accompanied by looting, social disorganization, panic, and deviant behavior are such myths.
- The media reported on Hurricane Katrina in ways that reinforced myths about antisocial behavior in disasters. Media initially employed a “civil unrest” frame and later characterized victim behavior as equivalent to urban warfare.
  - In Katrina, the media promoted false images even though they had little ability to verify what was actually happening.
  - They focused on dramatic, unusual, and exceptional behavior that reinforces the public beliefs about disaster behavior.
  - Behavior such as widespread looting is assumed by the media even though it is rare—such reporting leads to armed response by both law enforcement and the public.
- In reality, evidence shows that victims respond and adapt well.
  - Panic is not a problem in disasters—people help each other.
  - Social cohesiveness and informal mechanisms of social control increase during disasters.
  - Earlier community conflicts are suspended as communities unite under extreme stress.

### *Panic Myth*

The assumption that the public will panic in the event of a terrorist attack, especially one involving weapons of mass destruction, has been taken for granted in media and public policy and is now reflected in discussions among emergency management professionals.

- In reality, people respond with normal and understandable responses to risk and uncertainty by actively seeking information, which, although sometimes an inconvenience to authorities, is not panic.
- The panic myth has been consistently reinforced in the aftermath of 9/11 by government and disaster response organizations issuing information on how to avoid panic, even though panic is a myth.
- These erroneous ideas are harmful because they influence governmental, organizational, and public responses during disasters.
  - For example, concerns with public panic can lead officials to avoid issuing timely warnings and to keep information from the public.

### *The Media*

Why media portrayals of disasters so often deviate from what is actually known about behavior in emergencies highlights a number of factors.

- The focus on dramatic, unusual, and exceptional behavior can lead to the belief that such behavior is common and typical.
- The use of standard frames reinforces myths such as looting—the media publicize the use of the “National Guard to prevent looting,” implying that if



not for the National Guard there would have been a serious looting problem.

- These themes and content make such a strong impression in part because they reflect and are consistent with other popular media portrayals of disaster behavior, such as in disaster movies.
- The media have a record of portraying minority group members in stereotypical ways and, in Katrina, portrayed African Americans as looting and whites as “finding supplies.”
- Media-reinforced myths serve to justify policy stances adopted by law enforcement and other institutions concerned with social control.

NOTE: Media stories influence officials to adopt unproductive and outright harmful response strategies during an emergency. In Katrina, media depictions during the disaster provided strong evidence for later arguments that strict social control should be first priority during disasters and that the military is the only institution capable of managing disasters.

#### *Looting Myth*

Research has shown repeatedly that looting is highly unusual in U.S. disasters.

- Unlike looting during civil disorders, actual and potential disaster-related looting is widely condemned by the residents of affected communities.
- Despite the fact that actual looting is rare, many community residents still believe looting myths, arm themselves, and often refuse to evacuate to protect their property.

#### *Military Role*

The inability of federal, state, and local authorities to respond rapidly and effectively to Hurricane Katrina became a major scandal and led to the resignation of FEMA Director Michael Brown.

- Even before Brown's resignation, some government officials had argued that civil authorities were incapable of responding to major disasters and that the military would have to play a larger role than normal in a disaster.
- Although the initial response was incompetent, the federal government ultimately did mobilize, and a large part involved military and security forces.
- These forces were characterized as helping to restore public order, joining Louisiana National Guard forces that Governor Blanco described as “locked and loaded” to put down looting and violence.
  - Once the looting and civil unrest were perceived to have exceeded the capabilities of local police, the Guard was described as having been brought in to “restore and maintain law and order.”
  - The media emphasized lawlessness, and an image of a new “war zone” began to emerge. This metaphor was quickly reflected in the discourse of public and military officials.
  - Within a few days, President Bush and government officials described themselves as determined to regain control and protect the people with military forces.
- Within two weeks, military deployment was more than seventy-two thousand troops.

#### *Myths and Their Consequences*

Initial evidence suggests that the media's relentless adherence to disaster myths and to frames emphasizing civil unrest and urban insurgency had a number of immediate negative consequences.

- By calling for curfews and viewing all victims' movements as suspect, authorities likely interfered with people assisting each other.

- Because of the focus on violence and looting, officials may have failed to take advantage of the good will and spirit of residents and community resources such as churches and local organizations.
- By reassigning emergency responders from lifesaving to law enforcement, those involved placed law and order above the lives of the hurricane survivors.
- By viewing survivors as “lawless thugs,” responding agencies created conflicts between themselves and victims and ruined the collaborative partnership needed in disasters.
- Images of lawlessness might have caused help from outside the affected region to hesitate before mobilizing to disaster sites.

*Racial Issues*

The treatment of disaster victims in New Orleans and other areas has also reinforced the nation’s racial divide.

- There are stark differences between white and African American perceptions of the governmental response to the disaster.
- Comparisons of black and white responses to a Pew Center poll revealed very significant opinion differences about racial equality and how blacks are treated by the government.
- With people of color having low regard for national leaders and crisis response agencies, there is a question of how they will respond in future national emergencies such as an avian flu epidemic.
- With government leaders, the media, and members of the white majority seeing people of color as lawless elements, what extreme measures are they likely to advocate during future emergencies?

*Militarism*

Predictably, the failed government response to Hurricane Katrina has led to new calls for stronger military involvement in disaster response activities.

- Disasters are now being characterized as events best managed by force to put down civil unrest and restore order.
- The military is widely viewed as possessing the resources, logistics capability, and strategic insights to “get things done” in disasters.
- This militaristic approach stands in contrast with assumptions concerning how disasters should be managed, which emphasize community resilience, building public-private partnerships, reaching out to marginalized residents and their institutions, and developing consensus-based coordinating mechanisms at all levels.
- The distorted images disseminated by the media and public officials have served to justify calls for greater military involvement in domestic policing.
- One consequence of the war on terrorism is a growing acceptance of the military’s involvement in a wide variety of domestic missions, including providing security at Olympic Games and policing disasters.

NOTE: Disasters can become “focusing events” that bring about changes in laws, policies, and institutional arrangements. Hurricane Katrina may well prove to be the focusing event that moves the nation to place even more faith in military solutions for a wider range of social problems than ever before.

## Rising to the Challenges of a Catastrophe: The Emergent and Prosocial Behavior following Hurricane Katrina

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### *Background*

This article looks at how people, groups, and organizations in Louisiana reacted to the impact of Hurricane Katrina in September 2005. This event was not just a crisis—it was a catastrophe that created emergent behaviors.

- One of the issues affecting the community was the negative imagery that developed through the media and word of mouth indicating a state of anarchy, disorganization, regression to animal-like behavior, and a collapse of social control, agencies, and personnel.
- In addition, the media disseminated actual comments from the mayor and police chief stating that snipers were staked out and that rival gangs were engaged in shootouts at the Superdome. They also quoted the FEMA director who said his agency was working “under conditions of urban warfare.”
- The major thesis of this article is that emergent activities showed a different and opposite pattern to that suggested by the media.
  - People engaged in new but relevant coping behavior.
  - The same was true of outside groups trying to help.

### *The DRC*

The establishment of the Disaster Research Center (DRC) has led to an analytical approach to emergent behavior.

- The DRC model states that organized behavior can involve either regular or nonregular tasks and that the structures to carry out these tasks can either already exist or come into being after impact.
- They show four types of groups:
  - established groups—regular tasks and old structures;
  - expanding groups—regular tasks and new structures;
  - extending groups—nonregular tasks and old structures; and
  - emergent groups—new tasks and new structures.
- About three weeks after Katrina, the DRC deployed eight researchers.
- In addition to other research methods, special attention was paid to first-hand personal accounts of individuals’ own behavior.
- Even some of the DRC responses can be characterized as emergent behavior as they had to arrange for camping facilities as a substitute for lodging and they had to develop evacuation plans in anticipation of Hurricane Rita.

### *Hotels*

The major hotels decided that they would not take hurricane-related reservations from local residents.

- Rooms were held for guests who were stranded; those who could evacuate were urged to do so.
- Hotels had many more guests than anticipated due to airline cancellations and employees’ families moving into the facility.
- After the flooding, there was soon a scarcity of food and water, and guests began “looting” for basic necessities in nearby stores.
- Rumors of widespread antisocial behavior in the city did not deter guests and staff from helping one another.

- Hotels were able to rely on other hotels in their chains for resources as local resources were scarce, which eased some of their problems.
- When FEMA began to use the rooms for federal employees, the hotels had to then adapt to a long-term housing operation.

*Hospitals*

The DRC found that although hospitals had disaster plans covering an expected four-day situation, these plans did not include evacuation.

- Hospitals discharged less critically ill patients prior to the storm.
- Extra supplies were stocked, including fuel for generators.
- After the flooding, staff had to operate with dwindling supplies, poor communications, and extreme heat—this initiated massive but erratic improvisations.
- There was concern for personal safety as outsiders sought shelter in the hospitals. The staff feared for their safety after they heard the rumors of antisocial behavior in the city—some were given weapons.
- Private hospitals with more resources were able to arrange for helicopter evacuations while public hospitals could not do the same.

*Local Neighborhoods*

At the local neighborhood level, there was very extensive emergent behavior in informal groupings.

- One group named itself the “Robin Hood Looters” and commandeered boats, food, and supplies to help neighbors.
- They established norms of operation such as retrieving survivors but not bodies, and they agreed not to carry weapons.
- Another group took over a school, and after hearing the stories from the Superdome and the Convention Center, they decided *not* to evacuate to those locations.
- Some residents in Uptown armed themselves in response to stories of invading armed gangs of young black men.

NOTE: The widely circulating inaccurate stories added the perceived threat to personal safety to the problems already being faced in the flood crisis.

*Search and Rescue Teams*

The massive storm and subsequent flooding created a need for a response that many search and rescue agencies had never planned for.

- Many agencies had to improvise. The police and fire departments decided to make grids of the community to organize rescue efforts. They adopted the symbols used by federal agencies to mark every structure.
- The second phase involved initiating water rescue, which was unplanned and relied on local familiarity and the availability of boats.
- Other emergent behavior included breaking into a Wal-Mart to create a shelter.
- The formal and informal groups had to deal with nontraditional search and rescue actions, and all had to improvise to some degree.

*The JFO*

The establishment of the Joint Field Office (JFO) was an emergent action in light of a massive mobilization that was neither visualized nor planned for.

- The JFO was to coordinate federal, state, and volunteer agencies. Space was set aside for all participating groups, including volunteers.
- This unplanned office was established in an abandoned mall in Baton Rouge as an improvisation to try to coordinate all agencies.
  - The mall facilities were not equal to the high-tech demands of the operations. FEMA was not prepared to maintain such an outmoded facility; they had to improvise.

*Looting*

- After two weeks, the office was fully operational, and after four weeks, with about 2000 employees, the operation ran 24/7.
- A very complex, multifaceted, multipurpose, dynamic, and relatively large bureaucracy emerged in an extremely short time period.
  - Most of what went on was traditional and preplanned, but much done in the first weeks was of an emergent nature.

Emergent behavior is not always legal—looting of any kind is rare, and when it occurs it has certain distinctive patterns.

- Mainly it is done covertly, is strongly condemned in the community, is engaged in by just a few, and involves taking advantage of the chance opportunities that occur.
- Another pattern emerged in a disaster in St. Croix—it was overt, socially supported, engaged in by many, and targeted specific places.
- Elements of both of the above patterns emerged in the wake of Hurricane Katrina.
  - As many as twenty thousand people were involved in the drug culture before the storm. Thus, some of the behavior was not emergent but simply people continuing to do to what they had already been doing.
  - Others engaged in the emergent stealing of necessities like food and water and boats. They did not consider this looting to be criminal behavior.

NOTE: Researchers of looting and criminal behavior should examine the obvious complexities of emergent behavior, especially in catastrophes rather than crises, a theoretical difference that is crucial to understanding much of what goes on in events like Hurricane Katrina.

*Emergent Behavior*

A subtle implicit bias assumes that emergent behavior is always a good thing, in the sense that it provides a better coping mechanism.

- The work on Katrina shows instances that do not support the bias, such as where evacuees refused housing offered on cruise ships and residents took refuge in attics and sometimes died.
- Overall, emergent behavior is usually good, but not always. It is a different way of acting, but not necessarily a better way.

*Conclusion*

The examination of the five groupings illustrates the range of emergent behavior that surfaced in New Orleans.

- Generally, most of the improvisations helped in dealing with the problems that continued to emerge.
- The various social systems and the people in them rose to the challenges of a catastrophe.
- Equally as important, behaviors that did appear were overwhelmingly prosocial, making the antisocial behavior seem relatively minor in terms of frequency and significance.

## Moral Hazard, Social Catastrophe: The Changing Face of Vulnerability along the Hurricane Coasts

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### *Social Vulnerability*

Social vulnerability is the differential susceptibility of social groups to the impacts of hazards, as well as their abilities to adequately respond to and recover from hazards.

- Social vulnerability is the product of social inequalities—it is not only a function of the demographics of the population but also of more complex constructs such as health care, social capital, and access to lifelines such as emergency response and goods and services.
- The nature of the built environment and sociodemographic interactions also play a role.
  - More generalized characteristics of the built environment such as urbanization, economic vitality, and development help define the livability and quality of life of the community, which in turn influence hazard susceptibility, response, and resilience in the aftermath of a disaster.
  - What a community is like before a disaster continues after the event—disasters magnify the existing social and economic trends; they do not fundamentally change them.
- The social vulnerability index (SoVI), a measure of vulnerability, provides an understanding of the dynamics that factor into the computation of social vulnerability—some factors more, some less.
- The relative importance of each indicator in the SoVI provides the pathway for vulnerability reduction and resiliency improvements.
  - Socioeconomic status, development density, population age, race, and gender account for nearly half of the variation in social vulnerability among all U.S. counties.
  - SoVI is a tool that will enable planners and developers, city governments, and individuals to make more informed decisions for hazard mitigation, preparation, and recovery.

### *Suburban Communities*

Most of our experience with hurricane preparedness, response, and recovery is within a suburban context, not an urban central city.

- Suburbs have lower population and housing densities, and transportation is primarily by private automobile.
- Evacuations from suburbs are relatively straightforward, with most residents able to drive away from the area to a safe place to stay.
- Evacuations from coastal Mississippi and Alabama reflected mostly the suburban experience and went relatively smoothly compared to New Orleans.

### *Urban Communities*

Urban places create new and complex emergency management challenges.

- Large city problems such as segregation, neighborhood decline, socioeconomic deprivation, and inequities in health care have now become central issues for many emergency managers.

- There is a need for more focus on improving the resiliency of the community and its residents—enhancing skills and other attributes known to minimize loss or to strengthen the capacity to recover.
- Many inner-city residents rely almost exclusively on public transportation—in New Orleans, 27 percent did not own a car.
- Orleans Parish had the highest SoVI score of all Katrina-impacted coastal counties.
  - It is the only county whose score had risen since 1960.
  - This means these people currently have less ability to cope with disasters and less ability to rebound than they did in 1960.

*Moral Hazards* Moral hazards occur when society fails to protect the public from the adverse impacts of hazards and disasters either through inaction or through policies that reward risky behavior.

- The availability of flood insurance in high-risk, flood-prone areas encourages individuals to build in high-risk areas where otherwise they might not.
- The failure of the nation's emergency social safety net despite emergency preparations also created a moral hazard.
  - Rescue was slow.
  - Relief supplies were delayed up to a week.
- The preexisting social vulnerabilities in and around New Orleans gave rise to the social catastrophe, while the moral hazard occurred with our collective inability to respond.
- Emergency managers know too little about the disadvantaged communities that need the most help—the SoVI can provide this knowledge for planning, response, and recovery efforts.

*Vulnerability Forces* Two dominant sets of driving forces behind vulnerability are physical conditions and social indicators or some combination of the two.

- The social vulnerability of urban places like Orleans Parish are the following:
  - race, gender, and class;
  - rural agriculture and debt/revenue ratio.
    - With a single sector economic base such as agriculture, there is no alternative source of employment if that sector suffers long-term damage.
    - Local debt/revenue ratio indicates vulnerability if the county debt is greater than its revenue, which suggests a place in economic distress.
- Pairing social indicators with physical indicators such as flood potential, storm surge, or coastal erosion provides slightly different results.
  - Boruff and colleagues combined a coastal erosion index with a variant of SoVI and found that along the Gulf Coast, coastal erosion vulnerability is more heavily influenced by social characteristics.
  - For the Atlantic and Pacific coasts, vulnerability was more influenced by physical characteristics.

*Curbing Losses* Simply understanding the characteristics of people and places that lead to increased vulnerability is not enough to curb rising losses from disasters.

- What is needed is knowledge about who the most socially vulnerable people are and where they reside.
- Knowledge of who and where the most vulnerable populations reside allows protocols to be put in place before an event occurs to minimize the impact, saving lives and reducing property losses.
- We need proactive approaches to vulnerability reduction.

- Enhancing Resiliency* Although many expensive houses were destroyed along the coastline, the impact to the west and north from the storm surge area exemplifies the differences in social vulnerability in the Katrina disaster.
- Three miles inland from the exclusive Grand Strand in Mississippi, people are still trying to live in condemned houses while their affluent counterparts on the beach are able to live elsewhere while waiting for roads and utility repairs.
  - In New Orleans, after three months, residents of the 9th Ward were allowed in to recover belongings, while more affluent parts of the city already had power and water restored for months.
- Conclusion* For policy purposes, decreases in overall social vulnerability can be achieved locally by focusing mitigation and planning efforts on the most important component for each community.
- The recovery and reconstruction needs to proceed, but a “one-size-fits-all” strategy is not going to work and may exacerbate the preexisting social vulnerabilities found in the region.
  - Greater care and consideration must be taken to derive a socially just recovery of the Gulf Coast.

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## Hurricane Katrina and the Flooding of New Orleans: Emergent Issues in Sheltering and Temporary Housing

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- Purpose* This article addresses the adequateness of governmental efforts to provide shelter and housing for evacuees displaced by Hurricane Katrina.
- A comparison of pre-Katrina planning documents with actual actions will show expectations compared to what actually occurred.
  - The evacuation and sheltering/housing processes are a context for explaining how the failure of the unintegrated emergency management system exacerbated threats to health, welfare, and emotional well-being of the evacuees.
- Background* On August 28, 2005, Mayor Nagin ordered the first mandatory evacuation in the history of the city of New Orleans.
- It was estimated that 100,000 to 120,000 did not evacuate prior to Hurricane Katrina.
  - The state plans had the Superdome to be used as a refuge of last resort and not necessarily as a mass shelter.
  - Planned use of school buses in the Southeast Hurricane Task Force plan did not happen because the city was unable to find drivers.
  - On August 29, about nine thousand were in the Superdome and three thousand others in forty-five predesignated shelters—at this point all looked okay.
  - On August 30, the levees started to fail and thirty-eight thousand more people were moved to the Superdome and the Convention Center.



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S*Evacuation  
Planning*

- Despite widespread media reports, Michael Brown and Michael Chertoff claimed to have no knowledge of the situation.
- It was announced that Houston would take in evacuees, which caused another thirty to sixty thousand to converge on the Superdome.

NOTE: Although the complete evacuation of New Orleans was only expected to take two days, it took longer due to damaged infrastructure and overwhelming numbers of victims seeking exodus. By September 30, evacuees were in every state and almost half the U.S. zip codes.

Evacuation planning is one of the tools emergency managers use to anticipate removing people from harm's way in a disaster.

- Very little research has actually investigated *internal evacuation*, which is moving people to local shelters rather than out of the area.
- Planning guidance focuses on the identification of safe structures in low-risk areas expected for short-term use.
- Virtually no planning guidance is available to assist in transportation strategies, including how to communicate timely information.

NOTE: Without this type of planning, the transportation, medical, social service, and emergency sheltering needs can be adequately assessed, leaving the most vulnerable facing severe deprivation, worsening physical and health conditions, potential violence, and even death. In New Orleans, once the flooding began, the weaknesses of the state and local plan became apparent.

*Sheltering and  
Housing*

Planning for shelter and housing for victims falls along a continuum in the following order:

- emergency shelters planned for short stays;
- temporary shelters to provide for those who cannot go back to their homes—planned for several days to several weeks;
- temporary housing, which allows victims to return to normal functions and tasks in new quarters—usually apartments or rentals; and
- permanent housing for victims who will never be able to return to their original homes.

Katrina created a fifth category called long-term sheltering, which is out of the local area, for victims who do not know if or when they will return home.

*Dynamic Needs*

The catastrophic aftermath of Katrina reveals the fluid and dynamic sheltering process rendering the above continuum somewhat arbitrary.

- The Superdome was a refuge of last resort, then it was an emergency shelter, and then an unplanned temporary shelter due to slow evacuation.
- Hurricane Katrina provided significant deviation from traditional ideas of shelters because of
  - extended dislocation of victims from the impacted area,
  - moving victims to other states, and
  - extended duration of the evacuation.
- The transition along the sheltering continuum was not in step order, as victims moved back and forth between types of shelters and housing.

NOTE: The above highlights emergent areas in sheltering and housing not previously observed and shows that further refinement of the typology is needed.

*Intergovernmental  
Relations*

Understanding intergovernmental relations is useful for providing a context for the political structure of decisions, and understanding how preexisting arrangements facilitate or exacerbate provisions and assistance to victims.

- According to the U.S. Department of Homeland Security's (DHS's) National Response Plan (NRP), a coordinated federal response can be started in two ways:
  - a request from a governor for a disaster declaration, and
  - an announcement by the secretary of DHS declaring a storm or event an incident of national significance (INS).
- The success of the NRP is predicated on the implementation of the National Incident Management System (NIMS) at all governmental levels to provide coordination and command structure.
- Although the implementation of the above was expected to facilitate information gathering and resource provision, as of May 2005 no date had been set for government compliance.

*FEMA and  
DHS*

Although FEMA and DHS have been engaged in catastrophe planning since 2001, there has been no consideration for long-term sheltering in distant locations; nor has there been any guidance issued.

- Based on the 2004 hurricane experiences in Florida, FEMA established a Housing Area Command (HAC) to expedite the process of developing emergency shelters for those displaced by Katrina.
  - The HAC was composed of FEMA and other agencies, the Red Cross, and members of the private sector.
- Katrina also provided FEMA with an opportunity to establish the Joint Housing Solution Center (JHSC), a loosely organized, coordinating group to work with local communities to assess their need for temporary shelter and temporary housing.
  - The ultimate goal of the JHSC is to provide resources and housing options with the intent to foster long-term community recovery and redevelopment.
  - It is intended to build capacity and develop policy at a regional level, while providing resources to assist them in their rebuilding and planning efforts.

*JHSC in  
the Field*

The JHSC is the field information gathering and operational arm of the HAC.

- JHSC teams worked with local government and community members to identify sheltering and temporary housing needs and to begin to implement solutions.
- While it sounded promising, it did not work effectively when dealing with a new program in four different states at the same time and with people who had no knowledge in the performance of these efforts.
- There also was no linkage between the JHSC, FEMA's Individual Assistance program, or the Red Cross.

*Louisiana*

In attempting to understand why an integrated emergency management system failed to exist before, during, and after Katrina, it is important to understand the sociopolitical context of intergovernmental politics at all levels from the city of New Orleans to the state and the federal government.

- The mayor, the governor, and FEMA's Michael Brown had varying expectations of the other's roles, which created ambiguity, confusion, and misappropriation or underutilization of resources.
- The unique tradition of consolidated power in parish presidents, coupled with the volatile nature of Louisiana state politics, served as barriers for resource allocation.
- All of this was further exacerbated by the introduction of President Bush and Michael Brown, who were promising support but not delivering on their

promises—Mayor Nagin said, “They don’t have a clue what’s going on down here.”

- In a harsh media spotlight, the preexisting political traditions in Louisiana caused tensions among the different levels of government, further imperiling victims and facilitating a breakdown of intergovernmental coordination.

#### *Conclusion*

Hurricane Katrina severely taxed the emergency management system of this country and provided insight into how it can be improved.

- Increased attention must be paid to identifying safe refuges of last resort and emergency shelters.
- Plans are needed to prepare a region to accommodate the mass, albeit temporary, migration of homeless evacuees.
- The confusion in response to Katrina suggests that one plan may not fit all states—this may be a worthwhile challenge for FEMA to create individualized plans by area.

## Weathering the Storm: The Impact of Hurricanes on Physical and Mental Health

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#### *Introduction*

Hurricane Katrina provides an example of what happens when evacuation is not handled appropriately.

- Vulnerable elderly people were substantially overrepresented among the dead.
- Evacuees represent a population potentially predisposed to a high level of psychological distress, exacerbated by severe disaster exposure, lack of economic and social resources, and an inadequate government response.
- This article reviews
  - deaths, injuries, and diseases attributed to hurricanes in the United States prior to Katrina;
  - recent studies of evacuation and the potential of evacuation to reduce death, injury, and disease;
  - preliminary data on Katrina death, injury, and disease; and
  - psychological distress attributed to hurricanes.

#### *Statistics*

According to statistics on hurricanes reported by the National Oceanic and Atmospheric Administration (NOAA) for 1970 to 1999,

- only 1 percent of deaths in the United States were caused by storm surge;
- fifty-nine percent drowned in inland, fresh-water flooding;
- twelve percent of deaths were caused by wind;
- most common injuries were lacerations, abrasions, sprains, and fractures; and
- in Florida in 2004, the most prevalent risk factor for indirect morbidity and mortality following four hurricanes was improper use of portable generators, which resulted in carbon monoxide poisoning and sometimes death.

- Evacuation* While evacuations have the potential to save lives and reduce injuries, they are costly in time, money, and credibility.
- If an evacuation is ordered too early, the hurricane may change direction and make the effort unnecessary or move people to areas that are more dangerous.
  - Late evacuations expose many to danger.
  - The result is an evacuation policy that is, by design, precautionary but that raises concerns about the credibility of the information and its source.
  - Hurricanes in 1998 and 1999 resulted in traffic jams throughout the Carolinas, Florida, and Virginia with some spending as many as 20 hours on the road.
    - Despite problems, South Carolinians support evacuations and consider life safety the primary goal of evacuation.
  - It appears that mandatory evacuation orders are more effective than voluntary, but only rarely are persons forcibly removed from their home.
  - Where several previous evacuations have taken place, people rely more on local media and the Weather Channel than on what officials say.
  - Decisions not to evacuate are influenced by not knowing where to go, lack of transportation, cost of evacuation, care for pets, perceived delays in returning home, and the belief that homes are safe havens.
- New Orleans* Prior to Hurricane Katrina, in 2002, the New Orleans *Times-Picayune* said that efficient evacuation was the key to survival in a major hurricane.
- To be successful, more than a million people have to travel over at least eighty miles of aging, low-capacity roads.
  - They noted that such an evacuation would require a seventy-two- to eighty-four-hour window, which is substantially longer than the window within which forecasters can accurately predict a storm's track and strength.
  - Such an evacuation is highly dependent on private automobiles, but 27 percent of households in Orleans Parish did not have a car.
  - The total number of buses available could only evacuate 10 percent of those without cars—in fact no buses were assigned to evacuate residents of New Orleans before Hurricane Katrina, and mandatory evacuation was ordered just twenty hours before landfall.
- Risks* Some have speculated that vulnerable, poor African Americans in New Orleans were most at risk of death during Katrina.
- When compared with census estimates for 2004, African Americans are somewhat underrepresented and males are overrepresented.
  - Vulnerable elderly are substantially overrepresented among deaths.
  - Although the media and others are quick to suggest that survivors are at increased risk of infectious diseases, detectable increases have rarely been documented.
- Evacuees in Houston* Ninety-eight percent of the adults in the Houston Astrodome and the Reliant Center were from New Orleans.
- Most did not evacuate before the storm, either because they did not have a car or other way to leave, or because they underestimated the storm and its aftermath.
  - One-third said they had experienced health problems as a result of the hurricane or the flooding.
  - Eighteen percent had symptoms of acute gastroenteritis, with 50 percent of those positive for the common norovirus—no confirmed cases of *Shigella* dysentery, typhoid fever, or toxigenic cholera were identified.

*Floodwater Toxicity*

Considerable concern has been expressed about the potential toxicity of the New Orleans floodwaters.

- Floodwater tested in early September was similar to normal storm water runoff.
- Of concern are the large volume of floodwaters and the extent of human exposure to the floodwaters.

*Psychological Distress*

Postdisaster distress is determined by the characteristics of the disaster, cognitive processing of the event, individual characteristics, and qualities of the environment such as social support pre-disaster and post-disaster.

- Consistent predictors of distress are the severity of exposure and previous mental health problems.
- Internal resources, such as optimism, and external resources, such as social support, are important in reducing distress.
- Most children score in the normal range of distress, and their recovery tends to be rapid.
- Vulnerable persons are particularly prone to postdisaster stress, with vulnerability determined by prior distress, social class, gender, and linguistic or social isolation.
- The overwhelming majority of residents in the most severely affected areas of New Orleans were poor. This alone would predict high rates of psychological morbidity following Katrina.
- Disasters generate new, secondary stressors that serve as reminders of the trauma, including lack of food and shelter, relocation, crowding, financial strain, and coping with insurance companies and social services.
- Separation from family and friends and not knowing what happened to them increases stress and decreases social support.
- Lack of timely assistance and response from governmental agencies increases psychological distress.
- Beyond the lack of prediction and control that is seen in all disasters, human elements in disasters shatter fundamental beliefs about personal vulnerability, mortality, human nature and control over one's life.

*Achieving Normalcy*

To achieve normalcy, resources should be devoted to facilitating a quick return to pre-disaster conditions and routines.

- This includes restoring utilities, reopening businesses, and reestablishing social services.
- In the immediate aftermath, survivors of disasters need concrete and timely information on how to find shelter and assistance.
- In the longer term, the focus is on the process of rebuilding both the physical and social infrastructure.
- Because Katrina evacuees appear to be predisposed to a high level of psychological distress from the disaster, it will be important to document postdisaster experiences (including evacuation) to identify factors that exacerbate or diminish psychological distress following a major disaster.

*Summary*

Deaths that occur during the impact phase could be prevented if officials issued timely evacuation orders and provided transportation for those who need it and if coastal residents evacuated.

- Requirements that residents stay out of evacuated areas until utilities are restored and preliminary cleanup has been completed probably would reduce some postimpact injuries and deaths, but that conflicts with evacuees' desire to return home quickly in a search for normalcy.

- Distress is shown to increase in both adults and children, and it diminishes with time—the wide dispersion of Katrina evacuees and lack of timely assistance may exacerbate the mental health problems.

## Challenges in Implementing Disaster Mental Health Programs: State Program Directors' Perspectives

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- Background* Disaster study results highlight the importance of
- including mental health in state-level disaster plans;
  - fostering collaborative relationships across institutions;
  - clarifying program guidelines, sharing innovations; and
  - building state capacity for needs assessment and program evaluation.
- NOTE: The purpose of the present study was to increase understanding of the challenges involved in providing disaster mental health services by capturing the experiences and perspectives of a sample of state program directors.
- CCP* The Crisis Counseling Assistance and Training Program (CCP) aims to meet the short-term mental health needs of disaster communities through a combination of outreach, education, brief counseling services, and referral.
- Outreach and education serve primarily to normalize reactions and to engage people who might need further care.
  - Crisis counseling assists survivors to cope with stress and to refer clients to other services if they have more serious psychiatric problems.
  - To be eligible to participate, states must establish that the need for the services is greater than state and local governments can meet.
- Challenges* Numerous challenges interfere with the timely or effective delivery of mental health services.
- Unsolicited groups of well-meaning volunteers create chaos in disaster-stricken settings.
  - Less experienced providers may suffer from vicarious trauma, leading to distress, absenteeism, and erosion of staff morale.
  - Staff may self-segregate into those who are directly affected personally by the disaster and those who are not.
  - Turf boundaries, communication gaps, confusion, the stressful nature of the work, suspicion regarding outsiders, funding gaps, lack of long-term care, and survivor stigma are other problems and challenges.
- Planning* State directors' comments about predisaster planning and preparation clustered around three main topics:
- The presence or absence of a plan—low priority for disaster policy left few states with a disaster plan in place prior to facing their disaster.


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- Preparatory activities—directors saw designation of provisions, establishing relationships with other agencies, and a strategic command post as necessary for an effective response.
  - Predisaster training—FEMA training was perceived as vital with its experienced staff being able to discuss real-life situations.
- Response* The initial phase of a disaster response was described as chaotic due to the many competing needs and priorities of the first week.
- Submitting the grant application for aid while handling local needs was referred to as “the second disaster.”
  - The Center for Mental Health Services (CMHS) officer was cited as an important source of support.
  - Being part of a multidisciplinary team helped states gather information and implement the disaster response.
  - Assessing multiple sources such as news media, Chamber of Commerce people, and public safety representatives helped with getting information.
  - Contacting people who had previously been involved in disaster response was said to be positive and helpful in fulfilling the response.
- NOTE: After the first week, attentions were drawn to a longer-term response.
- Outreach* Outreach was a key component of every CCP and was generally thought to be effective by the state directors.
- The outreach workers go out into the community to educate victims about what responses they can expect, the types of services available, and where services may be obtained.
  - The directors noted the importance of carefully identifying target populations and employing workers indigenous to those populations.
  - There were several outreach challenges:
    - staff turnover was frequent;
    - the uncertainty of how to use paraprofessionals who might be untrained in mental health roles;
    - locating victims;
    - illiteracy and multiple languages in part of the population;
    - trying to provide one level of outreach to large groups, as not everyone in the group had the same needs; and
    - hostility and resistance from people who did not want help.
- Counseling* Counseling is not intended to be therapy; the boundaries of crisis counseling remain blurred across programs and across states.
- Counseling ranges from active listening to a “wellness model” to therapeutic interventions.
- Referrals* Referrals pose a number of challenges.
- First is the issue of when to refer—mostly, when someone accesses the system multiple times, they get referred to a professional service.
  - One strategy is the identification of “red flags” that signal trouble.
  - Most clinical directors were sensitive to the overloaded mental health system, while nonclinical directors were quicker to refer.
- Training* Training was undertaken to ensure compliance with federal programs and to give a quality response.
- Directors mentioned there was a lot of disorganized material.
  - Matching training needs to each individual in a short time is difficult.
  - Timing of training was a factor:



- If too soon, staff turnover came into play.
  - If too late, the people were already in the field without training.
  - The strength of the program was that since the training was federal, people in different locations all got the same training.
- The CCP Model* The CCP model focuses on providing community-level response. The primary challenges are
- establishing effective and accurate communication,
  - developing collaborative relationships with other agencies,
  - resolving turf issues, and
  - developing a system for acquiring and transferring funds from the federal authority to the state and then into the CCP and out to the direct service providers and agencies.
- Phasing Out the Response* Typically, the decision to end a CCP was based on funding or diminished need, and the actual length of the intervention was described as adequate.
- Extensions were requested when deemed necessary, which kept staff hanging, not knowing if the extension would be granted.
  - Phasing down resulted in job losses for most of the CCP staff, which prompted many to leave for other jobs before the CCP ended.
    - In some cases, directors felt that staffs' desire to continue stemmed more from their own needs than the community's.
- Evaluating the Program* Evaluation attempts of any kind were acknowledged as critical but were conducted by only about half of the CCPs.
- Most evaluations were anecdotal reports.
  - Often, there was resistance by program members to be evaluated.
  - Other resistance came from the fact that evaluations were not part of the federal grant.
- Recommendations* The findings yielded recommendations that may improve the rapidity and effectiveness of responses aimed at the psychosocial needs of victims.
- Mental health should be an integral part of disaster plans.
  - Plans should include dedicated resources that can be mobilized and accessed immediately.
  - Written plans may help the knowledge transfer from one event to another and one person to another.
  - Plans should include a designated disaster mental health coordinator with
    - a clear job description,
    - mechanisms to build capacity by developing collaborative relationships (with written contracts), and
    - communication venues.
- Training Recommendations* There are four key recommendations regarding federal training for mental health coordinators.
- Establish a curriculum that progresses through the process of disaster mental health response.
  - Follow up grant writing courses with advanced grant training.
  - Develop online courses.
  - During an event, states should be provided with a list of trainers matched to their event and their audience.
- NOTE: Directors want to see the grant process streamlined since grant requests are prepared during a crisis.



- Implementation Recommendations* Several actions would facilitate the implementation and ongoing administration of programs:
- program manuals to define and clarify the components of outreach, counseling, and referral;
  - training to facilitate the understanding of manuals; and
  - clear guidelines regarding the training and use of paraprofessionals.
- Fiscal Management* Fiscal management was an area of difficulty.
- States should be required to address fiscal issues as part of their applications and to have mechanisms in place for distributing federal funds to the CCP and its providers.
  - Federal program administrators should increase their capacity to provide technical assistance in this management area.
- General Recommendations* The authors recommend a standardized approach to CCP evaluation that depends less on the initiative and expertise of specific programs.
- There should be a set of common tools and procedures and a process of using the evaluation to help guide services.
  - Exit interviews with state directors would help capture and transfer lessons learned from past responses.
- Caveats* Two caveats about recommendations are as follows:
- The nature of qualitative research is to explore issues surrounding a program—this often highlights the feedback that needs attention, but one should not lose the positive responses and aspects of a program.
  - It should be acknowledged that several changes are in process at the federal level that are consistent with the author's recommendations.
    - An operations manual is in production.
    - A standardized evaluation protocol was enacted across twenty state programs after Katrina.
    - States now have common tools, manuals, and procedures.
    - For the first time, there is the capability for cross-site analysis of program reach and outputs.

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## Hurricane Katrina and the Paradoxes of Government Disaster Policy: Bringing About Wise Governmental Decisions for Hazardous Areas

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- Background* Disaster losses can be blunted if local governments prepare comprehensive plans that pay attention to hazard mitigation.
- The federal government can take steps to increase local government commitment to planning and hazard mitigation by making relatively small adjustments to the Disaster Mitigation Act of 2000 and the Flood Insurance Act.
  - A major change needed is to reorient the National Flood Insurance Program from insuring individuals to insuring communities.

- Paradoxes* The damage in New Orleans and the trend in increasing numbers and severity of disasters are the wholly predictable outcomes of well-intentioned, but short-sighted, public policy decisions at all levels of government. These decisions create two paradoxes.
- One is the *safe development paradox*, showing that in trying to make hazardous areas safe for development, government policies instead have made them targets for catastrophes.
  - The other is the *local government paradox*, showing that while citizens bear the brunt of losses in disasters, local public officials often fail to take actions necessary to protect them.
  - The consequences of each paradox reinforces the other and in combination lead to a never-ending cycle of ever-more-unsafe urban development and ever larger, catastrophic losses.
  - The pork-barrel politics that sustain the safe development paradox are unlikely to change in the face of continuing, severe natural disasters.
  - What can change is uninformed local government decision making about urban development that results in millions occupying at-risk structures in vulnerable locations. We need federal policies that
    - require local governments to prepare comprehensive plans that give consideration to natural hazards and
    - require them to assume greater financial responsibility for the consequences of their urban development decisions.
- NOTE: Comprehensive planning requirements adopted by state governments already have resulted in lower per capita losses from flooding, but less than half of the states require plans and fewer than ten states require that they pay attention to natural hazards.
- Flood Program* If the government reorients the National Flood Insurance Program (NFIP) so more of the burden of responsibility for insurance coverage is borne by local governments, local officials may become more committed to limiting development in hazardous areas and to mitigating the hazard to existing at-risk developments.
- Safe Development* For some time the federal government has pursued a policy toward the use of hazardous areas that is part of the paradox of safe development.
- The basic idea is that land exposed to natural hazards can be profitably used if steps are taken to make it safe for human occupancy.
  - To achieve this, measures are taken to mitigate the likelihood of damage and to deal with the residual financial risk.
  - The development stimulus of these policies is further augmented by federal aid that reduces the cost to localities of providing infrastructure in hazardous areas.
- New Orleans* The two biggest parishes in New Orleans (Jefferson and Orleans) provide examples of federal safe development policies in action.
- Knowing the high level of risk in New Orleans, the federal government in 1947 authorized levees to make ninety-six hundred acres from wetlands useable.
  - Following Hurricane Betsy in 1965, Congress authorized construction of the Lake Pontchartrain and vicinity Hurricane Protection Project to protect the two parishes from major hurricanes (up to Category 3).
  - Then Congress passed the National Flood Insurance Act (FIA; 1968), which provided more federal underpinning for the conversion of wetlands.

*NFIP*

- Convinced that the area was reasonably safe, people did not hesitate to join in a major building boom and settle in the former wetlands to the east of the Industrial Canal.
  - In 1999, oblivious to the danger, the City Planning Commission promoted these areas for growth. Six years later the entire area was under water.
- NOTE: The paradox is that trying to make the most hazardous areas safe had the unintended effect of contributing to the devastation of Katrina.

The NFIP tries to limit flood losses by imposing construction standards based on a 1 in 100 flood chance.

- The program has had difficulty because flood insurance rate maps are not up-to-date to take into account the new risks from building on wetlands, coastal erosion, and so on.
- Flood insurance is available, but buildings are not required to be elevated in areas of risk from either dam or levee failure.
- As a consequence of the above problems, the NFIP has not been able to cover its costs from paid premiums.
- To the degree the program fails to reflect risk in rates and operates at a loss, it subsidizes the occupancy of hazardous areas and facilitates more development than is economically rational.
- The basic standard of protection used by the NFIP, the one-hundred-year flood event, may need to be changed to the five-hundred-year event since most flood losses in the United States stem from less frequent flood events.
- The current program provides little incentive for property owners to take steps on their own to reduce flood vulnerability.

*Local Paradox*

Given that the incidence of disaster losses is primarily borne by local residents and businesses, one would expect avoidance of losses to be a high priority for local officials.

- Prior to being coerced by the requirements of the NFIP into adopting floodplain management regulations, virtually no local governments had done anything in building or zoning regulations to minimize losses, and even after the NFIP many did not enforce them seriously.
- Few local governments are willing to reduce natural hazards by managing development since they see it as a minor problem compared to unemployment, crime, housing, education, and other problems.
- Also, the costs of mitigation are immediate while the benefits are uncertain, may not occur during their tenure, and are not visible.
- In addition, a lack of citizen concern stifles local initiatives.
- Federal encouragement of the use of areas exposed to natural hazards also may discourage local governments from taking action as they believe the federal government will meet their needs in every disaster. Efforts to deal with these issues are only recently under way, and the degree to which these efforts have any effect is not known at this time.

*Avoiding the Two Paradoxes*

Unless the two paradoxes are addressed in federal policy, devastation similar to Katrina will be repeated across the United States.

- Appropriate land-use planning and oversight of development can reduce risks.
- Some states have established building codes to be enforced by local governments, and some require local governments to prepare comprehensive plans. NFIP claims payments in coastal areas of states with state planning mandates are lower than in states that leave these decisions to local govern-

ment discretion. The three states hit hardest by Katrina had left decisions about planning and enforcement entirely to local governments.

- The Gulf states have been noteworthy for their reluctance to interfere in land-use and development decision making—this in contrast to Florida’s demands for local action resulting in much lower losses.
- Comparing Florida, which requires local plans, to Texas, which does not, shows twenty times the NFIP claims in Texas.

#### *Sharing the Burden*

The two paradoxes help account for the upward spiral in the frequency and magnitude of natural disasters.

- To reverse this trend, it will be necessary for local governments to share more of the burden through careful management of development in hazardous areas and by assuming more of the financial responsibility for risk.
- The Disaster Mitigation Act could be amended to require mitigation plan updates be integrated into local comprehensive plans.
- The FIA could be amended to add the preparation of local comprehensive plans with hazard mitigation sections as a condition for participation in the program.

#### *Policy Changes*

The two policy changes suggested above would be beneficial, but given the lack of concern for hazard mitigation revealed by the local government paradox, a major change in government policy is likely to be needed before the increasing trend in disaster losses can be halted.

- This would involve amendment of the FIA to shift from insuring individuals to insuring communities.
- Flood insurance coverage and premiums would be based on the degree of exposure to loss.
- Local governments could pay the premiums from general fund revenues or they could set up special assessment districts or other mechanisms to raise the funds from properties that benefit from the insurance coverage.
- In cases where local governments refuse to participate, state governments could take responsibility for acquiring the coverage and requiring that both local governments and property owners take steps to reduce the risk of flood damages.

#### *New Policy Benefits*

The revolutionary change to the flood insurance program might have a number of benefits.

- All flood-prone buildings would be covered.
- Incentives for community participation could be created with disaster assistance coverage penalties for those who do not participate.
- The cost of the coverage could create incentives for state and local governments to reduce current risks and think twice before allowing more risky development.
- It would make it possible for the NFIP to more closely align premium amounts with risk and allow stronger incentives for lowering risk.

NOTE: Potential state and local opposition might be muted if Congress passes the Safe Communities Act, which authorizes significant financial assistance to help communities integrate hazard mitigation into their comprehensive planning and urban development decision making.

#### *Conclusion*

Before they could seriously be considered, the policy initiatives suggested here would require examination of the procedural changes needed to bring them about and an in-depth analysis of costs and benefits and the potential for unintended consequences.

- The increased costs in the short run would be offset by improved financial security for local citizens and governments.
- Federal assistance could be provided to particularly poor communities to help get the program in place without severe financial burdens.
- The suggested programs would speed recovery after disasters.
- The hope is to halt and possibly reverse the trend in increasingly serious natural disasters.

## Planning for Postdisaster Resiliency

Philip R. Berke and Thomas Campanella,  
University of North Carolina at Chapel Hill

### *Background*

In the aftermath of Hurricanes Katrina and Rita, government officials, residents, real estate developers, business owners, and urban designers became engaged in a debate about rebuilding. Items discussed include

- how to plan for more resilient places that are socially just, economically vital, ecologically compatible, and less vulnerable;
- how to give the hundreds of thousands of displaced residents a voice in determining their future; and
- what federal and state reforms are needed that facilitate rather than impede questionable intensive development of hazardous areas.

NOTE: Postdisaster resiliency applies to the process of recovery planning in which all stakeholders, rather than a powerful few, have a voice in rebuilding.

### *Planning*

To take advantage of the short open window of opportunity after a disaster, a community should have a recovery plan in place before a disaster strikes.

- A recovery plan guides short-range emergency and rehabilitation actions and long-range redevelopment decisions.
- It conveys a sense to the public that local officials are organized and in charge.
- By involving residents in all phases of planning, the predisaster planning helps create a knowledgeable constituency that is more likely to support redevelopment policies and programs after a disaster.
- The core purposes of the plan are to
  - offer a vision of the future after a disaster,
  - provide a direction-setting framework to achieve the vision,
  - inject long-range resiliency into short-term recovery actions, and
  - represent a big picture of the community that is related to broader regional, state, and national response policies.
- In the case of mitigation, a predisaster plan can identify potential sites, free of hazards, that could serve as relocation zones for areas likely to be damaged in hazardous areas.

### *Plans*

Local governments have used two approaches in preparing a predisaster recovery plan.

- Stand-alone plan—easier to revise, has more technical sophistication, is less demanding of coordination, and is simpler to implement.
- Integrated plan—the recovery plan is just one element integrated into a broader comprehensive plan for an entire municipality, county, or region.

- It brings more resources together, broadens the scope of understanding about interactive effects of recovery issues with other local issues, and provides access to a wider slate of tools.
- It has the advantage of linking recovery to the broader economic, social, and environmental community resiliency.

NOTE: The most effective choice is likely to be a stand-alone plan in collaboration with preparation of a comprehensive plan—a combination.

#### *Plan Research*

Evidence is emerging that well-conceived plans have a positive influence on more robust mitigation practices and reduction in damage.

- Studies also found that recovery and mitigation plans are frequently of low quality.
- Also, many communities have not given any attention to disaster recovery and mitigation planning.
- This shows that planners are aware of hazards but put a low priority on taking action—they view natural hazards as facts of life that are often inexplicable and completely unavoidable.
- The evidence suggests a need for strong federal and state actions to stimulate local planning for postdisaster recovery and mitigation.

#### *Planning Barriers*

There are significant barriers to effective local planning for mitigation and resiliency, especially in the Katrina impact region.

- As of the late 1990s, only twenty-five states mention that natural hazards should be accounted for in local comprehensive plans.
- The idea of planning as a means for creating more resilient places in the Gulf Coast states is practically nonexistent.
  - This inaction has deterred sensible controls on development in high-hazard areas that might have prevented much of the destruction from Katrina.
- The federal government has a history of weak support for planning and strong support for encouraging development in exposed areas.
  - This has been encouraged by generous disaster relief payments; income tax write-offs for lost property; and the National Flood Insurance Program, which does not charge high enough premiums to cover storm losses and is now in deficit.
- Given the nonsupportive federal and state mitigation policies, prospects for quality plans are low in many parts of the United States. It is not surprising that plans for recovery are nonexistent on the Gulf Coast.

#### *New Urbanism*

New Urbanism mixes land uses, including homes, shops, schools, offices, and public open spaces—modeled after small towns of the nineteenth century and intended to counter the negative societal impacts caused by sprawl including the widespread development of hazardous areas.

- The major benefit is to maximize open space without reducing the number of dwellings with an aim to concentrate building in safe areas.
- There is a mix of housing prices to bridge socioeconomic divides.

#### *Rush to Recovery*

In the rush to prepare recovery plans, officials may overlook the shortcomings of New Urban development codes, which do not now include design standards for natural hazards mitigation, as well as other environmental concerns.

- Placing high-density, compact urban forms in harm's way can lead to greater risks than the current low-density development.
- New Urbanism, however, holds considerable promise when development practices account for environmentally sensitive areas.

*Citizen  
Involvement*

A duty of democratic governance is to consult citizens and involve them in decisions and plans that will affect them.

- This did not happen with evacuation planning in New Orleans.
- Research shows prospects for well-conceived plans increase with broader participation and support of stakeholders.
- The wider the range of participants, the greater the opportunity to educate a wider array of stakeholders about problems and solutions.
- Early and continuous involvement generates increased commitment and a sense of ownership and control over policy proposals, which can offset the influence of traditionally powerful groups with ties to the real estate industry.
- Research shows that when plans lack involvement of locals, decisions are made without the benefit of local knowledge and capacities and may not be consistent with local values, needs, and customs.
  - This may create opposition to plans.

*Social Repair*

While restoring infrastructure is critical, it is also important to repair the torn social fabric—a process that entails reconnecting severed familial, social, and religious networks, neighborhood by neighborhood.

- Recovery involves reconstructing the myriad social relations embedded in schools, workplaces, child care arrangements, shops, places of worship, and places of play and recreation.
- In New Orleans, the likelihood that displaced residents will not return home carries profound implications for the recovery of a robust metropolis rather than a kind of theme park celebrating its former self.

*Changes  
Needed*

We can only hope that Hurricane Katrina will wrench us to our senses in building more resilient places.

- Federal and state governments should play a stronger role in encouraging local planning for postdisaster recovery and mitigation.
- We need to look at federal strategies that remove the monetary loss risk from local governments and look at risk avoidance instead.
  - These current strategies discourage local governments from adopting controls on development in hazardous areas.
- Without proper planning, the New Urban model will expose more people and buildings to harm.
- Any change will need meaningful consultation and participation of citizens in recovery decisions and plans that affect them—something that will be difficult on the Gulf Coast until the social fabric is repaired.

*Federal Reform*

The nation needs a more sustainable approach and a reformed federal-state-local relationship for recovery planning and mitigation.

- Federal policy should focus on performance-based environmental risk-reduction targets.
- Emphasis should be placed on land-use planning aimed at relocating existing development from high-hazard zones to low-hazard zones, and avoidance of new development in high-hazard zones.
- Local governments must pay a greater share of public infrastructure repair costs through insurance—the premium should be structured to encourage mitigation and avoid risky development.

*Facilitate  
Participation*

The federal government should require communities to take citizen participation—serious application of the principles below should be required in any local planning process.



- Apply grassroots organizing in new ways to encourage participation and encourage local people to lead civic institutions that tackle disaster recovery problems.
- Help people acquire new civic skills, with special attention given to those with low status in communities.
- Build more extensive networks to accomplish disaster resiliency goals.
- Build new norms—a culture that values and enables collective action.

## Disaster Mitigation and Insurance: Learning from Katrina

Howard Kunreuther, University of Pennsylvania

### *Background*

Hurricane Katrina has highlighted challenges associated with reducing losses from hurricanes and other natural hazards.

- Before a disaster, most homeowners, businesses, and the public sector do not voluntarily adopt cost-effective loss-reduction measures.
- The magnitude of a storm leads the government to provide liberal relief to victims even if it claimed it had no intention of doing so prior to the disaster.
- This combination of underinvestment in mitigation and the liberal use of taxpayer funds after a disaster does not auger well for the future.

NOTE: One of the reasons for this disaster syndrome is that many individuals perceive a disaster as something unlikely to happen to them.

### *Voluntary Mitigation*

Extensive evidence indicates that residents in hazard-prone areas do not undertake loss-prevention measures voluntarily.

- In the case of flood-prone areas, actions by the federal government, such as building levees, makes residents feel safe.
- This problem is reinforced by local officials who do not enforce building codes or land-use restrictions.
- Also, if developers do not design homes resistant to disasters, large-scale losses, as seen in Katrina, can be expected.
- Many people see the risk as being sufficiently low that they cannot justify investing in mitigation even if it may be cost-justified—there is evidence that individuals do not seek out information on probabilities.
  - Those who do seek out information on the likelihood of a severe disaster may find that experts disagree, and they may focus on the lowest-probability estimate.
- Individuals are often myopic and hence take only into account the potential benefits of such investments over the next year or two. This is one of the most documented failings in human decision making.
- Those with limited disposable income will not even consider mitigation and often do not buy insurance either.

### *Peer Influence*

How actions of others impact one's own decisions relates to the broader question of interdependencies.

- For example, if most homes in flood-prone neighborhoods were elevated, then others would likely follow, and vice versa.
  - Some suggested solutions are to subsidize mitigation efforts, provide tax breaks, and enforce building codes.



*Disaster Assistance*

Federal disaster assistance may create a type of Samaritan's dilemma: providing assistance after hardship reduces incentives to manage risks.

- If a family expects to receive government assistance after a loss, it will have less incentive to invest in mitigation and insurance.
- The increased loss due to lack of protection serves to amplify the government's incentive to provide greater assistance.
- In spite of the above, evidence shows that individuals or communities have *not* based their decisions on expectation of future relief.
  - Most had not expected to receive aid after a disaster.
  - Local governments that received disaster relief undertook more efforts to reduce losses than those that did not.
  - This behavior seems counterintuitive; the reasons for it are not fully understood.

*Cost-Benefit Analysis*

A simplified five-step procedure for conducting a cost-benefit analysis (CBA) includes the following:

- Specify the nature of the problem, the options being considered, and the interested parties in the process.
- Determine direct costs of mitigation alternatives.
- Determine the expected benefits of mitigation alternatives.
- Calculate the attractiveness of mitigation alternatives by comparing the expected benefits to each party to the upfront costs.
- Choose the best alternative.

*Banks' Role*

The challenge in developing a disaster management plan that encourages mitigation measures is to develop approaches that will encourage individuals to want to undertake these measures.

- Banks can play a key role if they require homeowners in hazard areas to purchase insurance against natural disasters and they make sure the premiums reflect the risk of living in the area.
- Banks could also require that a third-party inspector ensure that structures meet the building codes.
- Banks could encourage owners by providing home improvement loans with payback that occurs over the life of the mortgage.
- These efforts would lower the cost of insurance by lowering the costs for reinsurers who help insurance companies spread losses.
- Banks could provide a seal of approval to each structure that meets or exceeds building code standards.

*Tax Incentives*

One way for communities to encourage residents to pursue mitigation measures is through tax incentives.

- A taxpayer could get a rebate on state taxes to reflect the lower costs of disaster relief.
- Property taxes could also be reduced for the same reason.
- Some disincentives may come into play.
  - Improved property may get a higher assessment value and hence have a higher tax bill—this could be addressed with exemptions for such improvements.

*Conclusions*

If we, as a society, are to commit ourselves to reducing future losses from natural disasters and limit government assistance after the event, we have to engage the private and public sectors in a creative partnership.

- This requires well-enforced building codes and land-use regulations coupled with insurance protection.

- Economic incentives via long-term mitigation loans and subsidies to low income residents are needed.
- In addition, if structures are well-designed and land-use regulations are in place, there will be fewer injuries and fatalities and less need for large evacuations.
- CBA can play an important decision-making role.
- We may want to rethink the type of disaster insurance provided in hazard-prone areas.
  - It might be an idea to provide protection against all hazards under a home-owners policy rather than continuing with separate current programs.

## The Primacy of Partnership: Scoping a New National Disaster Recovery Policy

James K. Mitchell, Rutgers University

### *Background*

Hurricane Katrina is widely perceived as a threshold-crossing event, capable of bringing about changes in public policy akin to the policy response to 9/11.

- Of great importance is the nourishment of partnerships among stakeholder groups.
- Such partnerships have previously been organized around common material interests, but these might be more enduring if they also are based on ideas that capture shared ambiguities of hazard.
  - These partnerships, in many forms, bring together different levels of government, bridge the divide between public and private sectors, merge contributions of disciplines and professions, and close the gaps between experts and laypersons.
  - These partnerships have proved to reduce hazards.
- Lay publics need to be engaged in the partnerships and discussions.

NOTE: The process of recovery from Katrina presents social scientists an opportunity to extend inquiry and partnerships into new arenas that have the potential to sharpen understanding as well as to address policy reforms.

### *Recovery*

The size and complexity of post-Katrina recovery tasks is daunting, combining a major urban catastrophe with general regionwide devastation.

- These tasks are probably on par with post-World War II reconstruction of European and Japanese cities.
- In this situation, recovery generally becomes a national rather than a state or local priority. A comprehensive national policy is needed that lays out a broad clear path for the Gulf Coast and the whole nation.
- It is time to institute a formal national policy for disaster recovery—such a policy discussion has largely been missing after Katrina.

### *Leadership*

Prominent among discussions for coping with threats are calls for improved leadership via a single person or entity through which all important decisions would flow.

- While skillful leadership is helpful during emergencies, its significance is easy to misinterpret and to overstate.

- Humans tend to attach disproportionate importance to individuals as causal agents and to downplay the role of structural or contextual factors.
- Crises tend to constrain decision choices, while predisaster hazard mitigation has greater payoffs.
- Planning for leadership prior to a disaster is highly problematic. During a disaster, there may be conflict between the interests of the public and the interests of the leader.
- Disasters require flexibility, but leaders may fall back on rigid militaristic command and control.
- While it is foolish to ignore the importance of leadership, it is both facile and misleading to view leadership as a panacea for what is already, and for other reasons, a faltering public interest and engagement with natural hazards and disasters.

### *Partnership*

Partnership is at the heart of American hazards management policies and is the pivotal concept in reforms of these policies that have been proposed and less often implemented.

- One of the biggest barriers to improved policies is the fleeting interest after the initial abundant response to major disasters.
- In quiet times, there is usually no great public clamor for more effective programs to reduce risks, and the effort is left to a relatively small range of interested people including experts in government agencies, academia, and nongovernmental entities as well as a few in institutions such as utilities, real estate firms, and insurance companies.
- These groups, by joining forces, have managed to persuade public leaders to work for mitigation more so than disaster relief.
- It is now commonly accepted that policy making and management should involve all stakeholders.

NOTE: Since the late 1990s, public-private partnerships have been widely touted as a path-breaking innovation that brings a wide range of stakeholders to a table once dominated by bureaucrats, disaster professionals, and scientists.

### *Sustainable Development*

For all its potency, the notion of partnership is interpreted in a way that robs it of its potential to be a sustaining instrument for change.

- Interest-centered forms of partnerships tend to last only as long as the groups that have come together continue to share those interests.
- *Sustainable development* is an idea that synthesizes the concerns of two important fields of endeavor—ecology and economics—that look at long-term survival options.
  - Partnerships based on this kind of divergent but synthetic thinking are likely to be more resilient than those that rest on simpler notions of self-interest.
  - These partnerships address the desire for environmental stability and the desire for economic growth—a better fit between society and nature.

### *Beyond Sustainability*

There are now several possibilities for thinking beyond sustainability.

- *Linking recovery to other national policy goals*—public institutions are being reinvented to better cope with future hazards and disasters, and new programs and policies are being negotiated.
  - Shifts toward mitigation are facilitated by situating recovery in the context of policy goals that address issues of constitutionality, morality, sustainability, sociocultural change, technological revolution, and geopolitical transformation.

- *Surprises complicate recovery*—disaster planning needs to address many different kinds of unexpected contingencies.
- *Diverse functions need to be recovered*—hazardous places where people live serve different functions that are vulnerable to risk in different ways.
  - The most important are material and economic, metabolic (air, water, waste), information exchange networks, artistic and performance roles, creative expression, and power and regulatory functions.
  - These function areas are vulnerable to the extent that they are not capable of accommodating surprises and/or resolving the multiple contending demands of urban constituencies.
  - These vulnerabilities are mobilized, if not directly by the extreme event, then indirectly by cascading consequences.
- *Accommodating contradictory interpretations of hazard*—partnerships need to recognize that different people or groups see hazards and disasters through different lenses.
  - The potential for making common cause between groups that view hazard through the lens of science and those that employ paradigms of aesthetics, entertainment, risk stimulation, and cathartic therapy have not been well explored.
  - The way is open for a major constituency-building effort by proponents of hazard management if the potential for new partnerships of different interpretive paradigms are grasped.

#### Conclusions

Partnerships will become more important everywhere as humankind faces new kinds of threats, reemerging old risks, new vulnerabilities, and surprises.

- To address challenges, we need to increase the importance and prominence of hazard as an item on the human agenda.
- Far from narrowing and specializing, we need to maintain and expand the range of alternative coping measures—as a result, we can put together many different ways to prevent, avoid, and reduce disasters.
- What is needed most is broadening the discourse about recovery and bringing more people into it.
- In support of the above ends, we must harness the enormous potential of partnerships.
- Changes to existing policies for hazard management are needed, and the momentum to bring them about is present.

NOTE: We need to use the broad-based, partnership-based approaches that have served so well and not retreat to narrower expediency-driven alternatives.

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## Agility and Discipline: Critical Success Factors for Disaster Response

John R. Harrald, George Washington University

#### Background

It is appropriate to ask how to organizationally prepare for, respond to, and recover from extreme events to minimize the disruption and maximize the

resiliency of our social and economic systems. This article reviews the following:

- The nature of the challenge presented by extreme events.
- The recent experience in developing plans and procedures.
- A critical success factor approach to preparing, responding, and recovering.
- Organizational typology based on dimensions of discipline and agility.
- Three themes from the emergency management literature are as follows:
  - There is a trade-off between command and control requirements in managing a large organization and in the need to ensure broad coordination and communication.
  - There is a need to be able to adapt, be creative, and improvise while demanding efficient and rapid delivery of services under extreme conditions.
  - Diverse organizations must be able to operate together with common structure and process while interacting with thousands of volunteers.
- This article proposes that all of the above are needed and that the implied trade-offs are false choices—there must be both discipline and agility in emergency response conditions.

*Response Plan*

The Catastrophic Incident Annex to the National Response Plan describes the attributes of an extreme event from the perspective of its demands on emergency management—these were the actual attributes experienced in Katrina.

- Local response capabilities may be quickly overwhelmed.
- The area's critical infrastructure will be disrupted.
- It may take up to forty-eight hours or longer to assess what is needed.
- Federal support must be timely to save lives, prevent suffering, and mitigate severe damage.
- A large number of people may need to be housed in long-term temporary housing.
- The environmental impacts can severely challenge the ability and capacity to achieve a timely recovery.
- Responses must be flexible enough to address emerging needs.
- There may be a large number of casualties.
- The event may occur with little or no warning.
- Large-scale evacuation strategies may be complicated by health-related implications.

*Event Attributes*

Henry Quarantelli describes the attributes of a catastrophic event:

- Most or all of the community built environment is heavily impacted.
- Local officials are unable to undertake their usual work role.
- Help from nearby communities cannot be provided.
- Most, if not all, everyday community functions are sharply interrupted.
- The mass media filter less incoming information than during disasters and serve to define the catastrophe as they see it.
- The political arena becomes even more important.

*Response Phase*

The response phase can be subdivided into four phases reflecting the evolution of objectives and functions over time.

- First, the response is conducted by resources on the ground while external forces are mobilized.
- An integration phase structures these resources into a functioning organization capable of assessing needs and providing services.
- A production phase is where the response organization is fully productive, delivering services as a matter of routine.

- Finally, the external presence is diminished during a transition to recovery stage.

*Critical Success Factors* Critical success factors are those few key areas in which favorable results are absolutely necessary if the operation is to succeed. Critical success factors are identified for each phase:

- Preparedness and Prevention
- Initial Reaction and Mobilization
- Organizational Integration Phase
- Production Phase
- Transition/Demobilization Phase

NOTE: The critical success factors identify attributes of agility and discipline that must be developed by response organizations to meet the critical needs and allocate resources.

*Incident Command System*

The Incident Command System (ICS) evolved within the wildfire fighting community as a system of discipline and rapidly became a standard protocol for fire services and was also adopted by the Coast Guard.

- The ICS forms the basis for the National Incident Management (NIM) system and provides the following elements of discipline:
  - Common terminology
  - Management by objectives
  - Manageable span of control
  - Resource management
  - Establish and transfer command
  - Unified command
  - Information and intelligence management
  - Modular organization
  - Incident Action Plan
  - Predesignated locations
  - Integrated communications
  - Chain and unity of command
  - Deployment
  - Accountability of resources and personnel

*Improvising*

Researchers show that structured planning and organization are only effective if the ability to improvise is preserved.

- Improvisation and preparedness go hand in hand.
- Response management must rely on internal and external feedback.
- Organizations must anticipate and manage the unexpected.
- Organizational “mindfulness” is the quality to detect and react to the unexpected to catch and manage the unexpected earlier.

NOTE: In Katrina, the inability to identify and correct errors as the event evolved was a striking characteristic.

*Changes since 9/11*

The United States, in reaction to the September 11, 2001, attacks, has embarked on a massive attempt to coordinate the management of risks due to extreme events.

- First was the creation of the U.S. Department of Homeland Security (DHS).
- Then was the attempt to create a truly integrated national system for the preparation for, response to, and recovery from extreme events.
- The implementing documents are the National Response System (NRS) and the National Incident Management System (NIMS)—together they

provide the structure and discipline necessary to achieve many of the critical success factors.

- The above are intended to accomplish the following:
  - align national coordinating structures, capabilities, and resources;
  - ensure an all-discipline and all-hazard approach;
  - incorporate emergency management and law enforcement into a single structure;
  - provide one way of operating for all events; and
  - provide continuity of management from preincident to postincident.

NOTE: The ponderous, bureaucratic response to Katrina shows that DHS must now make efforts to create flexibility and agility while preserving the structure and discipline it has achieved—it must support a balanced/adaptive organization.

### *Conclusions*

The federal government's slow and ineffective response to Hurricane Katrina has presented many challenges.

- The organizational systems that respond to extreme events must be open systems that allow information to be gathered from and transmitted to the public and to nongovernment organizations.
- There must be improvisation and distributed decision making in the face of the unexpected—we will fail if the only people who know emergency management plans and processes are the emergency managers who operate in a closed community with a closed language.
- We must remember that the military can be used to maintain command, control, and order and to move resources rapidly, but they are not trained or structured for the complex intergovernmental coordination and collaboration needed when preparing for or responding to extreme events.
- What is needed is federal, state, and local collaboration and leadership and a disciplined and agile national response system—it is time to establish necessary competencies, systems, and relationships that will ensure we do not repeat the same mistakes with different people.

## Is the Worst Yet to Come?

Donald F. Kettl, University of Pennsylvania

### *Background*

If the nation does not learn the lessons that both Katrina and September 11, 2001, have taught us, we will suffer the same consequences, over and over.

- The government's staggering recovery efforts in the Gulf Coast raise deep worries about its ability to respond to other large-scale, high-consequence events.
- We face the virtual certainty of more big events that provide little time to react and where the cost of failure is enormous.
- These wicked problems we increasingly face fall outside normal routines and slop over any boundary, political or organizational.
  - The mismatch between our boundaries and the problems we are trying to solve invites repeated failure.
  - The nation's intellectual capital for understanding, yet alone solving, these problems is seriously depleted.

- Policy makers, when facing big problems that demand quick responses, understandably retreat to what they know, or, at least, what they find comfortable. These past models provide a poor guide for future action.
  - We need new tools for new problems or we will be constantly outmaneuvered by events and combatants who exploit our weaknesses.
- Looking Backward* We have not learned from 9/11, and we are likely to fail to learn yet again from Katrina.
- We have an instinct to look back instead of forward—in response to 9/11, the nation focused on a model from the past (creation of the U.S. Department of Defense in 1947) in devising a new strategy in the creation of the U.S. Department of Homeland Security (DHS).
  - Many of the problems we face are broad and unpredictable events that, deliberately or not, take advantage of weak points in our system.
    - In 9/11, it was weak points in airline security, and in Katrina it was weaknesses in the levee system.
  - The nation needs to get much smarter in dealing with unpredictable events; if all we have are backward-looking plans, we doom ourselves to repeated failure.
- DHS Problems* The single most important fact about the creation of the DHS is that it emerged from political, not administrative, imperatives.
- What the administration felt it would take to prevent another 9/11 was to merge twenty-two agencies into a single new department.
  - Creation of DHS turned much less on how best to secure the homeland than on how to balance executive and legislative power.
  - Driving the debate was the need to coordinate intelligence, but the intelligence agencies successfully fought to remain outside the DHS.
  - The department was unwieldy and beset by cross-pressures and bureaucratic turf wars—staff skills, as seen in FEMA, were poor.
  - Communication strategies linking federal, state and local officials was largely an afterthought—when Katrina hit, key people with the right instincts were not in place.
  - Katrina shows that when we settle for bright political symbols instead of efficient public organizations, we inevitably pay the price.
- Thinking Vertically* Battles over the chain of command erupted in the days after Katrina hit.
- All along the vertical line, from local officials through the states to federal officials at the highest levels, battles erupted and confusion reigned.
  - Some one person has to be in charge of events like Katrina, but a coordinated response requires the subtle weaving together of forces from a vast array of functional areas and from different levels of government, not hierarchical control. Officials need to coordinate with each other.
  - Hierarchy provides the critical, unifying structure to the capacity of complex organizations, but effective response also requires strong horizontal relationships to put that capacity to work.
    - We need to organize vertically and to work horizontally.
- Regulations* In case after case, rules, paperwork, and procedures stymied the government's response to Hurricane Katrina.
- Rules are invaluable, but they can create deep pathologies by providing protection from blame and making it easy for officials to duck the responsibility for thinking about what needs to be done.
  - When rules do not fit the situation, obedience to them can paralyze action.



*Home Rule*

A senior DHS official said that a major impediment to effective response is “our maniacally single-minded devotion to home rule.”

- Old political boundaries of authority prove to be a very poor match for twenty-first-century problems. Boundaries should not constrain the ability to act.
- In New Orleans, the devotion to home rule literally produced gunfire at the bridge that refugees were told to use to evacuate from the Superdome to Gretna City—the police fired warning shots to turn the people away.
- In Katrina’s aftermath, local, state, and federal boundaries handicapped the government’s response.

*Lessons Learned*

What general lessons does Katrina teach?

- We face a new generation of wicked problems that demand innovative solutions.
- Lessons of the past are important, but old lessons can hamstring our ability to look forward.
- We need to govern instead of looking for symbols—we need to plan, practice, implement, and learn.
- We need public officials to lead and communicate confidence.
- We need new strategies for horizontal coordination.
- We need good rules, but they should not undermine common sense.
- We must not let old boundaries handcuff our ability to respond.

*Federal Lessons*

After 9/11, Congress and the president joined in a fundamental restructuring of the nation’s homeland security apparatus.

- FEMA and twenty-one other agencies merged into DHS, with the administration saying it was to ensure that the efforts to defend this country are comprehensive and united.
- But when it faced the first important test, the department failed.
- DHS received low grades for devising a national strategy to help state and local governments, for allocating grant funds according to risk, for poor support for state training, and for poor support for first responders.

*Federal Solutions*

Straightforward steps could help DHS deal with its problems.

- The department could work from the top down so that the system works from the bottom up—it must be part of an integrated national plan involving federal, state, and local resources.
- Structure matters, but not as much as leadership—there must be a much more agile emergency response system.
- DHS needs top homeland security officials who understand their critical role in coordinating an integrated response.
- It will be crucial to develop a leadership, especially in FEMA, that recognizes that every disaster is different, with different challenges.
- The federal budget, especially in grants, can create incentives for a minimal level of preparedness everywhere in the United States.

*State and Local Lessons*

State and local officials had their own challenges, and they learned they need to do the following:

- Create a unified command—bringing the full range of commanders together at a single location.
- Create a single public face to encourage citizen’s confidence by communicating about what is being done by people ably in charge.
- Establish interoperable communications so officials are not cut off from one another.

- Establish relationships among commanders so they are familiar with working with one another.
- Practice what is in the written plans so everyone is familiar with what is in the plan and what needs to be done.

Without adequate management capacity, governments will struggle to spend recovery money well and without waste, fraud, and abuse.

- The Gulf Coast is the region graded lowest in the nation for its capacity to manage infrastructure.
- Local officials blame lack of resources in the postponement of maintenance on mitigation infrastructure, but the infrastructure management systems in these states lag well behind other states.
- Thus, post-Katrina resources will flow into states that already have a substantial infrastructure backlog—can taxpayers be assured that new facilities will be maintained properly?
- After such a catastrophe of damage and loss of life, it would be worse to suffer catastrophic failure amid the effort to rebuild.

## Disaster Mitigation and Disaster Response Recommendations

### Background

The “Shelter from the Storm” research articles in the March 2006 issue of *The Annals of the American Academy of Political and Social Science* make clear that the 2005 hurricane damage on the Gulf Coast could have been lessened considerably, and that lives did not have to be lost.

- Several things have led people and businesses to feel personally and financially secure about being in hazardous areas:
  - cheap federal flood insurance programs;
  - the expectation of substantial federal aid to disaster victims;
  - lack of restrictions on construction in hazardous areas;
  - encouragement by local governments who see this construction as good for the economy and for creating jobs; and
  - the belief that the risks must be low if government endorses construction in these areas.

### Recommendations for Mitigation

To mitigate the potential for natural disasters, we need to change the way we control new construction in hazardous areas.

- The ideal would be to stop construction in hazardous areas and not to rebuild in high risk flood-prone areas and coastal areas.
- Where construction is allowed, special building codes must be required and enforced by local governments.
- Banks need to restrict construction loans and mortgages to those structures that meet the new codes.
  - Banks must insist on inspections by skilled inspectors.
  - Banks should require owner-paid insurance for these properties, which can be made affordable by including it as part of the monthly payments over the life of the loan.
- The federal government should stop subsidizing flood insurance (this is a major incentive to build in flood-prone areas).
  - All community related disaster insurance should be at unsubsidized premiums and paid by the communities involved so they have an incentive to enforce codes.
- Predisaster planning should involve residents, thereby helping to create a knowledgeable constituency that is more likely to support redevelopment policies and programs after a disaster.
- We need to provide the poor with financial incentives to either move out of hazardous areas or to do mitigation.

### Evacuation

Evacuation is the most powerful tool to prevent loss of life.

- The public in each community must be educated in how the evacuation plan will work.
  - They need to know the best routes.
  - They need to know where to get gas and supplies on the evacuation routes.
  - They need a complete emergency supply kit even if it means that officials have to provide supplies for all who evacuate.
- The evacuation plan must be realistic—to evacuate an entire community may take twice as long as or longer than most current plans have allowed for.
- A plan must be in place for the evacuation of people who have no means of transportation, are infirm, are elderly, are in hospitals and nursing home,

and who refuse to voluntarily evacuate because they won't leave their pets or are just belligerent about evacuating.

- The public must be made aware that looting of homes does not normally occur in natural disasters.
  - In addition they should be made to feel secure that the focus of National Guard deployment in the disaster area is to help emergency workers with things like downed power lines and fires. Looting is not a major problem and therefore is not a major concern of the National Guard.

### *Planning for Response*

The response to almost all previous disasters has been slow and disorganized in the first few days. We must clarify roles at local, state, and federal levels.

- Local governments must stockpile supplies, vehicles, and personnel at strategic locations before a natural disaster strikes.
- Local disaster plans must be in place and must have been tested with practice drills.

Relationships among first responders and emergency organizations must be developed.

- There must be one command center for all heads of emergency teams with a single leader in place.
- All levels of responders must have compatible communication systems.
- States must have a plan for using the National Guard.
  - This plan must take into account the possible destruction of roads, bridges, and other infrastructure.
  - The leader of the state emergency command post must have authority to use the National Guard as needed.
- A system of feedback from local areas to advise the command post on needs must be in place—satellite phones may be an answer.
- The federal level requires structure, but also freedom to improvise based on unexpected needs at the scene and to respond with agility when the need to improvise arises.
  - People on the ground need to be able to decide what's needed and call for support when and where needed without red tape.
  - Grant writing for emergency relief and support must be streamlined, so it can be in federal hands in one day.
  - FEMA must be a stand-alone agency staffed with people experienced in emergency management.
  - Trucks and helicopters (whether they be U.S. military or National Guard equipment) must be available for release by the state emergency command post leader without having to go through a written requisition—one call should do it.
  - We should adapt the Incident Command System (ICS) evolved within the wildfire fighting community as a system of discipline as outlined in John R. Harrald's article [this volume].

### *Shelters*

A plan must be in place to shelter evacuees out of harm's way during the disaster and in the short- and long-term after the disaster where needed.

- Sites for FEMA "trailer cities" should be preselected as part of a plan.
- Shelters are needed for emergency workers and relief crews.
- A shelter plan must include medium-term housing for evacuees until they can go back to their houses or into a FEMA trailer city.
- Shelters must be able to handle pets as well as people.

*Volunteers*

Well meaning volunteer groups and individuals need to be included in disaster plans so they are not in the way of government responders.

*Use of the Military*

Although there has been a clamor for more involvement of the U.S. military in disaster relief efforts, two other options may prove more important:

- Reestablishment of FEMA as a separate entity outside of DHS; and
- use of the National Guard under the command and direction of the leader in the central command post.

*Florida as an Example*

A final recommendation would be to look at how Florida's emergency management system is organized and work to improve it and make it the model for the entire United States.