Examining the National Response Plan in Response to a Catastrophic Disaster: Hurricane Katrina in 2005

Naim Kapucu
Department of Public Administration
University of Central Florida
HPA II Suite 238M,
Orlando, FL 32816-1395
USA
nkapucu@mail.ucf.edu

Over the years, the Federal Response Plan (FRP) and the National Response Plan (NRP) have reflected policy learning and changes that result from disasters. Since its initial release in 1992 the FRP was amended twice then replaced by the NRP in 2004. In the past, revisions to these plans have occurred in response to Hurricane Andrew and the September 11 terrorist attacks. In the aftermath of Hurricane Katrina, the state of U.S. emergency management has been widely questioned. This article examines developments in NRP and its implementations in response to Hurricane Katrina in 2005 from collaboration and partnership perspectives. Information was collected from a variety of print and electronic sources for the study.

Key Words: National Response Plan, disaster response, Hurricane Katrina, catastrophic disaster, National Incident Management System

Introduction

After 9/11, emergency management reached a high level of salience in the US. Understandably, the focus tended to be on the prevention of terrorism and, to a far lesser extent, on preparing for
the consequences of terrorist attacks. We may begin to see attempts
to refocus efforts to be more inclusive of natural disasters, even
though terrorism will remain the “hot button” issue for years. We
might begin to see a renewed debate on the National Response Plan
(NRP), but suspect that the basic intergovernmental framework
shall remain intact. Slow Federal government response hampers the
ability of local, state and federal governments to work together in a
highly collaborative manner, at least in the early stages of a disaster.
A structural change in the Department of Homeland Security (DHS)
and Federal Emergency Management Agency (FEMA) may have
little impact on such events, unless there is some change to the
underlying, enabling legislation supporting emergency management
operations, accompanied by a more intensive education campaign
focused at senior political leaders at all levels.

Emergency operating centers, communications, healthcare
systems, and a host of other preparations, particularly training, are
crucial to fit state and local governments into a national response and
recovery system when catastrophic disasters occur (simultaneously
or in sequence). Catastrophic disasters include those events when
supply chains break down or are so seriously disrupted that our
traditional pattern of relying on the rest of the nation to generate
the capacity for supporting the stricken area(s) fails. Training
should extend en masse to the private-sector so that the emergency
manager’s disaster training, mitigation, planning, response, early
recovery and extended recovery will not make the kinds of seemingly
minor mistakes that cascade into huge impacts which imperil the
economic, societal, cultural, and political recovery from a disaster
(Lampen 2002; Fordham 1999; Perry and Nigg 1985).

In the aftermath of the 9/11 terrorist attacks, much has changed
for emergency responders and emergency managers in the US. The
Homeland Security Act of 2002 significantly revised the national
approach to terrorism and all other emergencies. It created the
DHS, which absorbed the much smaller FEMA. Suddenly, FEMA’s
mission of mitigation, preparedness, response, and recovery was
open to challenge and revision as a result of new money flowing
to this area. FEMA has historically been the coordinating agency
against all types of hazard (Waugh 2000). For DHS, previous
emphasis on preparation for “all hazards” emergency preparedness and response fell out of favor. Funding decisions illustrate that traditional emergency management priorities take a back seat to terrorism. In 2004, Federal grants supporting states’ antiterrorism plans had jumped to more than $3 billion from $221 million in 2001. During the same period, FEMA’s principal grant program to state and local emergency management, Emergency Management Performance Grants (EMPG), was cut by Congress (at White House urging) by some $90 million, to $180 million. For 2005, the budget for EMPG was cut by an additional $9 million, and the focus of the program was shifted towards terrorism (Selves and Braddock 2004). Emergency management professionals have voiced that the current EMPG funding is not adequate for strong state and local emergency preparedness efforts. In a survey conducted by the Emergency Management Association, EMPG funding is $264 million below what it should be (Latham 2005).

In the aftermath of Hurricane Katrina, the state of emergency management has been questioned in the US. While much of the frustration is aimed at DHS/FEMA, much of it is misdirected (Walker 2006). Much of the frustration deals with the manner in which local, state, and federal agencies interact in the framework of the NRP. Much of the criticism appears to revolve around federal agencies’ inability to be immediately available to coordinate the emergency response activities. Other federal and state officials pointed to Louisiana’s failure to measure up to national disaster response standards, noting that the federal plan advises state and local emergency managers not to expect federal aid for 72 to 96 hours, and base their own preparedness efforts on the need to be self-sufficient for at least that period. However, the first breakdown occurred at the local level. The primary responsibility for dealing with emergencies does not belong to the federal government. It belongs to local and state officials who are charged by law with the management of the crucial first response to disasters. First response should be carried out by local and state emergency personnel under the supervision of the state governor and his/her emergency operations center.

The article examines the following questions: What are the major developments in the federal emergency response plans in the U.S.?
How can FEMA be reconstituted and empowered within DHS so it has not lost its coherence or pre-DHS jurisdiction and funding programs? How can National Incident Management System (NIMS) training be improved to ensure that state and local governments are able to implement the NRP? What portions of the NRP were not implemented, or improperly implemented during Hurricane Katrina? How effective was the coordination of federal, state, local, nonprofit, and private agencies, as outlined by the NRP, in response to Hurricane Katrina? For this research, information was collected from a variety of print and electronic sources including newspapers, and government reports and documents. To compose a timeline and description of Hurricane Katrina, a number of sources were consulted, including online news articles and governmental agency websites, such as NASA, DHS, the National Climatic Data Center and the Government Accountability Office (GAO). Data was also collected from reports issued by private nonprofit organizations, such as America’s Second Harvest. This article focuses on the extent of policy lesson-learning in the emergency response plans and compares the Federal Response Plan (1993 and 1999) and the NRP. The article also examines the implementation of the NRP in response to Hurricane Katrina in 2005.

**Theoretical Background and Conceptual Framework**

Catastrophic disasters pose an extraordinary test for public agencies. Such incidents require coordination of actions among multiple organizations, and require integration of multiple agencies and jurisdictions into a functioning response system. Reliable performance of emergency response systems depends upon coordination among agencies and jurisdictions; coordination depends upon capacity for information search, information exchange and absorption of information (Weick and Sutcliffe 2001; Comfort 1999). Elinor Ostrom (1998) explores the concept of collective action and learning among organizations in dynamic environments. Using the concept of self-organization and learning by a single actor as an initial point of action, Ostrom observes that these processes of learning and adaptation extend to a set of interacting organizations
and agencies. These interactions are critical to understanding the
dynamics of complex systems, such as those characteristic of disaster
responses environments.

In the 21st century, complex problems—such as poverty, the
AIDS pandemic—have emerged and with them the proliferation of
collaborative efforts using any available resources to attack them.
Problems at this scale are outside the scope of any one agency and
require interaction for successful response (Wise and Nader 2002;
Kettl 2004). When an incident like Hurricane Katrina occurs, blame
is often placed on the local government, suggesting they were
completely responsible for system failures and actions that would
have strengthened system robustness. The emergence of the new
governance approach that combines the practices of traditional
government with market driven approaches of the private sector
and the resourcefulness of non-profit organizations (Agranoff
2004) questions this assumption. Blending the strengths and needs
of all levels of government agencies, and other sectors has created
a move from reliance upon a highly centralized, hierarchical
control mechanism to equally contributive growth mechanisms.
Subsequently, public managers must adapt their management styles
to include the skills needed to manage coordination and collaboration
efforts of emergency management in networked environments.

The growing number of horizontal relationships is a result of
complex issues requiring the use of management tools that fall
outside of the boundaries of the traditional vertical relationship
(O’Toole 2000). Organizations tasked with addressing issues that
have great scope, affect a large population, or require an immense
amount of resources have crossed traditional hierarchical boundaries
to collaborate with other public, private, nonprofit organizations,
and the media. The multi-level, multiple agency, boundary-spanning
activities organizations use to coordinate and implement their
programs are representative of this shift in governance. To a further
degree, multi-level coordination emphasizes “power-sharing between
levels of government with no center of accumulated authority…The
relations are characterized by mutual interdependence on each
others’ resources, not by competition for scarce resources” (Smith
2003, p. 619).
The intergovernmental relations can be utilized to identify better ways to respond to disaster situations. Agency leaders may redefine their policy boundaries, their views about the role of government, the interdependence between levels of government, public and private interdependence, and their focus on performance. Networks are emerging as a model of service delivery that incorporates loosely formed associations of voluntary organizations. These networks are “based on shared values, trust, solidarity or consensus” (Wollmann 2003, p. 595) and bargaining and negotiating are treasured qualities (Agranoff 2004). In the following section, development of the NRP from FRP will be presented in detail, answering one of the research questions. It is also added to contribute to the relatively small body of detailed scholarly documentation of the changes from federal response to NRP.

**From Federal Response Plan to National Response Plan**

Fragmentation and lack of coordination has plagued the U.S. emergency management system for years. In 1969, after Hurricane Camille devastated the Gulf Coast, the outcry over the slow response prompted the creation of an emergency management agency that eventually evolved to become FEMA in 1978. Until the creation of FEMA, emergencies were managed by seven federal agencies (Waugh 2000). Depending on the nature of the disaster or emergency, over 100 federal agencies would be involved. FEMA, authorized as an independent federal agency in 1979, was intended to coordinate emergency management functions among federal agencies. The Federal Response Plan (FRP) was originally released in 1992; the creation was triggered by Hurricane Hugo in 1989 (Harrald 2006; Rubin and Harrald 2006; NAPA 1993). FRP was an all-hazards plan that addressed the aftermath of a natural or human-made disaster—any incident that would permit federal action as provided by The Stafford Act of 1988. This 1988 Act gives the federal government the authority “to respond to disasters and emergencies in order to provide assistance to save lives and protect public health, safety, and property” (FEMA 1992, p. 1). The main purpose of the FRP was to provide a structured, coordinated response to support the efforts...
The FRP provides fundamental assumptions and policies; as well as an interagency coordination mechanism to facilitate the immediate delivery of Federal response assistance. It identifies twelve Emergency Support Functions (ESFs); each is headed by a primary agency, and assisted by support agencies. ESFs are categories of Federal response assistance that are most likely to be needed in preparation or response to a disaster. Twelve ESFs are included in the original FRP. Examples of ESFs include Transportation, Communications, Public Works and Engineering; Hazardous Materials, and Food. Each is headed by a primary agency, and assisted by support agencies. The FRP assigns responsibilities (either primary or support), and actions to twenty-six Federal agencies. Additionally, there are three Support Annexes; these are functions that support the ESFs, though they may not be directly involved in the disaster response. The original three Support Annexes were Financial Management, Public Information, and Congressional Relations (FEMA 1992, 1993).

It is significant to note that the original FRP does not specifically address disaster mitigation or recovery. The FRP briefly mentions local government and private nonprofit agencies, but does not specify their role. Nonprofits are referred to in a section stating that the Federal government encourages donations to private nonprofits, and will only handle donations of goods or services that it chooses to accept (FEMA 1992, p. 8). The American Red Cross (ARC) is the only non-Federal agency included as the primary agency for ESF #6, Mass Care, in RFP.

Hurricane Andrew devastated Florida shortly after the release of the FRP in 1992. Because of the unsatisfactory response to this disaster, FEMA lost its credibility, and changes to the FRP were recommended by GAO and the National Academy of Public Administration (Kapucu and Comfort 2005). The Plan was amended in 1999 and 2003. In 1999, the Plan was updated to include mitigation and recovery, and added four new functions, referred to as Support Annexes, including Community Relations and Logistics Management. When the FRP was revised in 1999, four agencies were removed: the Office of Personnel Management (OPM), the
Tennessee Valley Authority (TVA), the United States Postal Service (USPS), and the ICC (FEMA 1999). Three of these agencies, OPM, TVA, and USPS, were re-introduced in the 2003 revision. In the 2003 FRP, FEMA was included with the newly created DHS. The National Communication System (NCS) was also absorbed by DHS. The Small Business Administration (SBA) was newly introduced into the FRP, indicating a greater inclusion of the private sector (DHS 2003).

**Inter-organizational Coordination in the National Response Plan**

The September 11 attacks caused significant changes to the federal and national emergency response coordination. It became apparent during the response and recovery effort that the coordination of state, local, federal, private, and nonprofit agencies was needed. September 11th influenced the 2003 revisions to the FRP, and the creation of the new NRP. The incident spurred the creation of the DHS, and with it, a new perspective on homeland security. This new perspective included a stronger focus on intergovernmental networks among state, local and federal levels, as well as an emphasis on homeland security being a shared, national responsibility, not solely federal. Since September 11, 2001 there has been an emphasis on improving communication across the levels of government, as well as between sectors.

Through Homeland Security Presidential Directive #5 (HSPD-5), the FRP was redeveloped as the NRP. This directive also called for the creation of the National Incident management System (NIMS) (Sylves 2006). Released in 2004, the NRP purports to “for the first time … [tie] together a complete spectrum of incident management activities to include the prevention of, preparedness for, response to, and recovery from terrorism, major natural disasters, and other major emergencies” (DHS 2004, p. i). It is intended to provide “vastly improved coordination among Federal, State, local, and tribal organizations to help save lives and protect America’s communities by increasing the speed, effectiveness, and efficiency of incident management” (DHS 2004, p. i). The NRP combines the FRP, Domestic Terrorism Concept of Operations Plan, Interim
National Response Plan, and other federal plans to create “an all-discipline, all-hazards plan that establishes a single, comprehensive framework” (DHS 2004, p. i). The NRP is an improvement to the FRP in that it includes state and local public agencies, as well as private and nonprofit organizations in its response system. Three new functions were added: Public Safety and Security, Long Term Community Recovery and Mitigation, and External Affairs. Also, five new agencies, or groups of agencies were included. These include the Social Security Administration (SSA), and the United States Army Corp of Engineers (DOD/USACE). The three other additions are sub-agencies of DHS, including DHS Emergency Preparedness and Response (EPR) combined with FEMA (DHS/EPR/FEMA), the Information Analysis & Infrastructure Protection combined with the National Communications System (DHS/IAIP/NCS), and the United States Coast Guard (DHS/USCG)(DHS 2004b). Some additional Homeland Security elements that were added are the Homeland Security Operations Center (HSOC), the Interagency Incident Management Group (IIMG), the Principal Federal Official (PFO), and the Joint Field Office (JFO).

Historically, the private and nonprofit sectors have had an unsuitably informal role in national disaster response. To date, the only nonprofit that has been included in the FRP and NRP is the ARC in the NRP; ARC is the primary agency for the ESF #6, Mass Care, Housing, and Human Services. The NRP addresses the general roles that nonprofit and private sector agencies play in the event of a disaster and briefly delineates responsibilities, but does not name specific agencies (DHS 2004). However, the vital role that the private and nonprofit sectors play has been gaining increasing recognition. A comprehensive approach to emergency management, Hardenbrook argues, “especially critical infrastructure security, cannot be accomplished if the private sector is excluded from these efforts” (2005, p. 1). Approximately 85 percent of the nation’s infrastructure is privately owned; this highlights the need for partnerships between the public and private sectors to ensure sufficient emergency preparedness. These partnerships should be encouraged not only at the federal level, but especially at the local and regional level. Homeland Security Presidential Directives 7 and 8 (HSPD-7, HSPD-8) address Critical Infrastructure Identification and
Protection and National Preparedness. As a result of these directives, a classified database is being compiled of over 80,000 infrastructure assets, with the intention of prioritizing their protection. However, many private entities are not participating in the database because of liability concerns (Hardenbrook 2005). Critical infrastructure is just one example of an area of emergency management where there should be more collaboration between the public and private sectors.

Some issues that discourage private sector involvement in homeland security and emergency management include the sensitivity of revealing vulnerability information paired with governmental disclosure policies such as state sunshine laws, and the lack of monetary incentives to partner with the government (Hardenbrook 2005). DHS claims that some efforts have been made to encourage private sector inclusion. In 2002, the SAFETY Act was passed to encourage the private sector to develop technology related to homeland security. According to DHS’ Secretary Chertoff, this law protects these private companies from possible financial losses in lawsuits related to these newly developed technologies (Chertoff 2005).

**National Incident Management System (NIMS) and NRP**

HSPD-5, in addition to calling for the creation of the NRP, called for the creation of the National Incident Management Systems (NIMS) platform, which provides a standard approach for preparation, response, and recovery for domestic incidents (Rubin and Harrald 2006). NIMS is intended to facilitate Federal, State, and local coordination and interoperability by providing information on the incident command system (ICS), multi-agency coordination systems, unified command training, identification and management of resources, qualifications and certifications, and the collection, tracking, and reporting of incident information and incident resources. NIMS is to be used in all incidents, including incidents of national significance, those that cause the activation of the NRP (Harrald 2006). NIMS is thought to be beneficial in both incidents that span local boundaries, and incidents that require Federal assistance, because of its focus on “seamless transitions and integration of resources.” The document provides a common strategy
that can be used by all levels of responders, from first responders to Federal Responders. This strategy includes two main components, the Standard Resource Typing (SRT) and Standard Organizational Structure (SOS). The SRT system is intended to allow for the timely acquisition of needed resources during an incident. The SOS is supposed to facilitate responders from anywhere in the country working together in an organized manner.

Beginning in 2005, State and local government are required to adopt NIMS in order to receive grants, contracts, or other federal assistance for preparedness efforts (Rubin and Harrald 2006). NIMS was tested in February 2004, in an exercise entitled “Unified Defense.” This was a practice response to a category 4 hurricane in Texas, including federal agencies, military, and Texas emergency management officials. It seems that more training of State and local governments, and perhaps more testing of the NIMS framework is needed, as evidenced by the response to Hurricane Katrina (Walker 2006).

Homeland Security Presidential Directive #7 (HSPD-7), along with HSPD-8, provides for the identification and prioritization of critical infrastructure, with the intention of protecting these locations from terrorist attacks. HSPD-8 calls for an all-hazards preparedness goal, the National Preparedness Goal, to create measurable objectives. HSPD-8 is intended to accompany HSPD-5 in the effort to create a standard implementation of NIMS, and the NRP. HSPD-8 aims to establish policies, procedures, and goals to strengthen our Nation’s preparedness to prevent and respond to terrorist attacks, major disasters, and other emergencies. Specifically, HSPD-8 calls for a domestic all-hazards preparedness goal that establishes measurable priorities and targets; creates mechanisms to improve delivery of Federal preparedness assistance to State, local, and tribal governments; and outlines actions to strengthen the preparedness capabilities of Federal, State, local, and tribal governments (DHS 2006; Rubin and Harrald 2006).

As part of this directive, the National Preparedness Goal (Goal) is being created by DHS. An Interim National Preparedness Goal was released in March of 2005 by DHS, the final version was intended to be released in 2005. The purpose of The Goal is to identify measurable targets and capabilities for State and local
governments to determine how prepared they need to be, if they are meeting that level of preparedness, and how they should prioritize any preparedness gaps. There are seven main priorities of the Goal; they are divided into two categories: overarching national priorities, and capability-specific priorities. The overarching national priorities include implementation of NIMS and the NRP, expanding regional collaboration, and implementation of the Interim National Infrastructure Protection Plan (INIPP). The capability-specific priorities are strengthening information sharing and collaboration; interoperable communications; chemical, biological, radiological, nuclear, and explosive detection, response, decontamination; and medical surge and mass prophylaxis. To help governments implement the Goal, step by step instructions, the National Preparedness Guidance, is provided by DHS. The following section presents NRP implementation after the description of the Hurricane Katrina case.

**Brief Description of the Catastrophic Disaster:**

**Hurricane Katrina in 2005**

Hurricane Katrina originally developed as a tropical depression in the Bahamas on August 23, 2005. On August 24, 2005, Katrina was a tropical storm. Tropical Storm Katrina moved northwest towards South Florida, and became a category 1 hurricane just before making landfall near North Miami Beach, on August 25 at 6:30 AM (NCDC 2005). In South Florida, 1.3 million customers experienced power outages as a result of the storm (NCDC 2005). Moving west across the southern tip of Florida, Hurricane Katrina entered the Gulf of Mexico and gained strength. The storm moved northwest, and then north, heading towards Louisiana on August 26. At this time, sea-surface and atmospheric conditions strengthened the storm into a major hurricane. By August 28, Hurricane Katrina was swirling in the Gulf as a category 5, with wind speeds over 170 miles per hour. On August 29, Katrina made landfall at Grand Isle, Louisiana as a category 3 hurricane with 125 mile per hour winds. The central pressure of the storm was 920 mb, a record-setting third lowest among Atlantic storms in the United States (NCDC 2005).
As the storm hit land in Louisiana, winds were recorded at 140 miles per hour, and wind gusts in New Orleans reached over 100 miles per hour. Katrina made a second landfall on the border of Louisiana and Mississippi, with wind speeds of 110 miles per hour. The storm then moved inland and drenched the area from the Gulf coast all the way through the Ohio Valley. Rainfall reached 2-4 inches in these areas, and produced tornadoes in Georgia. The worst impact of Katrina was widespread and severe flooding. Two days after landfall, 80 percent of the city of New Orleans was submerged beneath floodwaters. Due to strong winds, heavy rainfall, and a storm surge, the levee holding back Lake Pontchartrain was damaged, causing the extensive flooding. Some parts of the city were left under 20 feet of water. Flood waters remained for two and a half weeks, on September 15, 2005, some of the city was still flooded. During the recovery, the U.S. Army Corps of Engineers pumped approximately 380,000 liters of water out of the city every second. A storm surge over 30 feet washed over Biloxi and Gulfport, Mississippi, causing widespread flooding in that region as well (NASA 2005; NCDC 2005).

In South Florida, Eleven deaths were reported as a result of the storm. A week following the storm, the official death toll was 656, 423 of those in Louisiana, and 218 in Mississippi. Thirty four of those deaths were elderly people who drowned in a nursing home; the owners were arrested and charged with negligent homicide for failing to evacuate the residents.

The total estimated number of evacuees as a result of the hurricane is 499,510 (Prives 2005). After the storm, travel to and from New Orleans was virtually impossible; bridges along Interstate 10 exiting the city were destroyed, and both airports were flooded (NCDC 2005). Within New Orleans, the Superdome served as the primary shelter for approximately 25,000 people. Conditions were squalid; there was a shortage of food and water, reports of rape and other violence. Many evacuees were bussed to Houston; the American Red Cross reported that the Astrodome soon filled to capacity with over 11,000 evacuees, and the remainder had to be housed in other shelters throughout the city (Treaster 2005). In Dallas, Texas, approximately 17,000 evacuees took shelter at the Dallas Convention Center and
Reunion Arena. The mayor complained of a lack of both state and federal assistance in housing the large number of evacuees. Evacuees were displaced for months; in Lafayette over 20,000 evacuees passed through the city, and the Cajundome provided shelter for up to 10,000 all the way until Thanksgiving (Morris 2006). The state of Tennessee reportedly sheltered over 38,000 evacuees.

Damage estimates in South Florida alone are estimated at over $600 million (NASA 2005). In Gulfport, Mississippi, initial estimates for road and bridge repair were over $3 billion. Within the city of New Orleans, the Army Corp of Engineers estimated that 160,000 homes would be unsalvageable; the damage outside the city was estimated to be far worse (CNN 2005). The financial impact of the storm has yet to be determined. DHS reports that FEMA has provided almost $4.4 billion in aid to victims of Hurricane Katrina (GAO 2006). Katrina also caused disruptions in the oil industry, damaging oil refineries in the Gulf of Mexico. Oil production was reduced by 1.4 million barrels per day; the price of gas hit a record high as oil shortage fears spread. The Gulf Coast is an exporter of oil products to the rest of the country, and 21 refineries in the region were affected by the hurricane (GAO 2005; NCDC 2005).

**National Response Plan in Response to Hurricane Katrina**

NRP was tested for the first time in response to Hurricane Katrina. Prior to the NRP being activated, a State governor must request that the President declare a state of emergency. Then, the Secretary of Homeland Security must declare the emergency to be an “Incident of National Significance.” If the event is declared a catastrophic event, additional measures are taken. In the meantime, the State and local governments are responsible for implementing their own emergency plans. In response to Hurricane Katrina, Mayor Nagin of New Orleans and Louisiana Governor Blanco have been criticized for not following the Louisiana State Emergency Plan. On August 26, Governor Blanco declared a state of emergency, yet the mandatory evacuation was not issued until two days later, August 28. President Bush had issued an emergency declaration the day before on August 27 (Dyson 2006). The federal government’s response to the hurricane
was equally slow. DHS’s Secretary Chertoff declared the hurricane an incident of national significance on August 30, a day after the storm made landfall. This activated the NRP; however, he did not declare it a catastrophic event, which would have activated further actions in the NRP, resulting in a more complete and proactive response (GAO 2006). Prior to a disaster, a clear chain of command and central leadership should be established. In this event, no one filled the necessary leadership role. Neither the DHS Secretary, nor the Principal Federal Officials designated by the DHS Secretary served as the necessary central leader (GAO 2006).

The inadequacy of the local response and preparation is further evidenced by situations such as the 200 school buses that were left abandoned in downtown New Orleans and flooded by the storm. These buses could have evacuated 13,000 people (Mulrine 2005). FEMA’s response to the disaster seemed disorganized, and drew criticism from many. The American Red Cross was turned away twice by state officials when the agency requested entrance into New Orleans to deliver relief immediately following the storm; the state cited logistics concerns. It seems that “the failure to adhere to pre-established administrative procedures clearly impeded the response process during its critical early stages” (Schneider 2005, p. 515). In addition to the denial of Red Cross assistance in New Orleans mentioned earlier, FEMA also denied assistance from volunteer physicians because they were not licensed in Louisiana (Perrow 2005). There were reports that FEMA did not coordinate its response with local governments, rather, its efforts hindered local recovery efforts. The Director of the Mississippi Emergency Management Agency, Robert Latham, testified to the Committee on House Select Katrina Response Investigation that FEMA did not deliver the needed food, water, and other supplies to the state in the amount or time requested, though the state followed proper procedures to request such supplies (Latham 2005).

Communications failures plagued the recovery efforts; many cell phones and landline telephones were inoperable. Amateur radio provided emergency communications and health and welfare information to the public. Protection of critical infrastructure is an area of homeland security that was apparently underestimated in New
Orleans. Before Hurricane Katrina, the Army Corps of Engineers warned that the levees surrounding the city may not withstand a Category 3 hurricane. The construction of the levees themselves increased the vulnerability of New Orleans, causing the city to sink further below sea level. Budget proposals to restore and strengthen the levees were cut by the Bush Administration from $14 billion to $540 million over four years (Grunwald and Glasser 2005).

Critics of the NRP note the unwieldy nature of the document, “[t]he size and complexity of the NRP inhibits its full implementation when state and local governments who are relied upon to carry it out have not been full partners in its creation and have little control” (Neuby 2005). Other concerns include lack of federal assistance to fund activities required by the NRP. The federal grant process is slow, as is the pass-through of money provided to States for the distribution to cities. Also, it is claimed that State and local officials have not been given enough access to intelligence available to Federal authorities because of a lack of security clearance.

Reorganization or Retooling of FEMA in DHS

Before Katrina, in July of 2005, Chertoff had already announced plans for structural changes to DHS. Some key points included strengthening intelligence functions and information sharing, improving coordination and efficiency of operations, and enhancing coordination and deployment of preparedness assets (DHS 2005). This disaster seems to have proven the need for a national response, a federal form of leadership in emergency management.

Many are concerned that DHS is too focused on acts of terrorism to devote sufficient attention to the management of natural disasters. State and local practitioners are left with no national leadership and no mentors. The centralized design of DHS, and the removal of authority from FEMA has enfeebled the agency, reducing its capability to respond to disasters. In the 1980’s and 1990’s, after Hurricanes Andrew and Hugo wrought their devastation, there was criticism of the governmental response. FEMA reacted by stepping up and evolving to become a more effective agency.

A criticism of FEMA and DHS’s current structure is the line
of authority. Many, including Governor Bush of Florida, feel that the FEMA director should have a direct report to the President, they should not have to report first to the Secretary of Homeland Security at DHS. This reporting structure, as well as the structure of the divisions within FEMA need to be changed to allow for a swifter, more efficient response in emergencies (Bush 2005). President Clinton recognized the need for FEMA’s direct report, and brought the agency up to Cabinet-level in 1996. FEMA had this position until its absorption into DHS in 2003. In light of Chertoff’s announcement to reorganize DHS and FEMA, it has been suggested that Congress explore other options. One option is strengthening FEMA, rather than weakening it. Another option is to re-examine and perhaps change the authority of other emergency agencies not within DHS. A third option that Congress has been encouraged to consider is authorizing FEMA as an independent agency, outside of DHS (Bea 2005).

Discussion: Lessons Learned

The response to Katrina, like many disasters preceding it, has highlighted the inadequacies of state, local, and national emergency management preparedness. There are many lessons to be learned from the incident that can improve the NRP in the future.

Federal Budget Should Encourage Disaster Preparedness: As evidenced by the cutting of funds to renovate and strengthen the levees in New Orleans, there has been a lack of support in the Federal budget for emergency preparedness. The Government Performance Project of 2005 evaluated and graded all 50 states on their ability to manage money, people, information, and infrastructure. An examination of the infrastructure grades is telling, and alarming. Twenty-one states, including the Southeastern states of Louisiana, Mississippi, Georgia, South and North Carolina, and Alabama received grades of C or below on their ability to manage infrastructure. These states are prone to hurricanes, yet they are evaluated as being inadequate in their daily management of roads, bridges, and buildings. The performance of these states’ management systems in disasters seems questionable (Kettl 2005).
Currently, the receipt of Federal assistance is tied to NIMS; states are supposed to meet a minimal level of preparedness before receiving emergency preparedness funds. However, many local governments complain that they are not receiving the needed federal assistance. At the U.S. Conference of Mayors in 2004, 52 percent of 231 cities surveyed across the U.S. reported that they have yet to receive any money from the state-block grant program. This is a homeland security program that provides funds for first responders at the local level (Spears 2004). Additionally, many complain that the use of federal funds by state and local governments is too restricted, and focused on terrorism, while ignoring other, more common hazards (Latham 2005). Perhaps, if more federal funds were made available for emergency preparedness, and levels of preparedness at the state and local level were more closely regulated, response plans could be implemented more effectively.

**Incident Command System and a Clear Leadership:** The current national response system is not well understood at all levels of government. The post of Principal Federal Official (PFO) was not filled during Hurricane Katrina (Walker 2006; LOHSEP 2006). One lesson is the importance of a functioning incident command system. There was a lack of communication and chain of command in and around New Orleans. For instance, evacuees leaving New Orleans on foot after the issuance of the mandatory evacuation were turned away by police in an adjacent town, Gretna. Louisiana had a system based on incident command but did not utilize it (Swope and Patton 2005).

After 9/11, Mayor Giuliani was a clear leader, and built a “network of horizontal partnerships” (Kettl 2005). Four years later, Louisiana and the city of New Orleans did not exhibit a clear chain of command and leadership. The immediate response seemed to be a struggle over which government official was responsible for the disaster. This disorganization and lack of pre-planned structure likely increased the negative impact of the disaster. Disasters do not occur within our pre-set jurisdictional lines. Our plans to handle emergencies must cross boundaries, they must coordinate state, local, and federal jurisdictions, and create a clear chain of command (Kettl 2005). To facilitate a timely response to disasters and mitigate the loss of life and damage
to property, there must be “prearranged decision protocols” (Kapucu and Wan Wart 2006, p. 294). These protocols must be repeatedly rehearsed by the people who will be involved in the actual emergency so that the response is as effective and efficient as possible. When practicing emergency response scenarios, emergency plans must take into account the very likely possibility that a percentage of emergency responders will not be able to perform their duties. After Katrina, 15 percent of New Orleans police officers did not report for duty. Emergency management plans must be able to operate with a reduced force of people.

**Communication and Coordination:** During an emergency, there will be breakdown in communication; both telecommunications and information technology infrastructures will be disrupted (Kapucu and Wan Wart 2006). Mayor Nagin of New Orleans and his staff did not have communication for two days after the storm hit. Unable to establish a communication system, Nagin sent messages through CNN reporters, and eventually, was able to use an internet telephone account set up for personal use by a staff member (Kettl 2005). The GAO’s report on Hurricane Katrina regarding preparedness, response, and recovery noted that communications and coordination among first responders was lacking, despite previous recommendations in GAO reports issued in 2003 and 2004 (GAO 2005). In a disaster, the normal means of communication, cell phones, landline phones, the internet, even radio frequencies will most likely be inoperable. Emergency plans must include alternate methods of communication, and plan ahead in the event that communication is impossible, so that operations still run as planned.

Some states are utilizing innovative communications technology to overcome this challenge. Florida uses a statewide radio system that allows emergency responders to communicate in a disaster, regardless of the frequency they normally use. Over 200 public safety dispatch centers in every Florida county are able to connect to this system (Bush 2005). Mississippi is working on improving satellite communications in all of its county emergency management offices, and distributes portable satellite phones to its state emergency response team, as well as local authorities (Latham 2005). Global Positioning Systems (GPS) are a tool that can improve coordination
and pre-planning in response to emergencies. For instance, in the event of a hurricane, GPS can help predict the path and strength of the storm, and assist in the identification of which populations need to evacuate, and which do not need to evacuate. Before a disaster strikes, normal means of communication should be used for the maximum benefit.

Besides technology, handling communication and coordination begins with developing relationships between people. Public officials must establish relationships between municipalities and private nonprofit agencies before a disaster strikes. Pre-existing trust is vital for effective coordination in an emergency. Among other factors, high performance in disasters depends on the coordination between and development of positive, trusting relationships between emergency agencies and responders that allow for the “suspension of rules because of unexpected needs” (Kapucu and Wan Wart 2006).

**Training:** A way to build relationships among emergency responders is through training and exercises. The GAO notes that though the NRP assumes a proactive national response, it does not provide detailed delineated plans. State and local governments must have these plans, and practice them to ensure that they have a clear idea of what will be required in a disaster, how much assistance will be needed, and how it will be coordinated (GAO 2006). In 2004 and 2005, FEMA, along with a private company, Innovative Emergency Management, conducted the “Hurricane Pam” exercise along with several parishes in Louisiana (Thomas 2005). This was part of the Southeast Louisiana Catastrophic Hurricane Planning Project, an effort to address the complexities involved in responding to a hurricane in such a vulnerable area as Louisiana (Fairley 2006). This exercise was successful in identifying likely impacts in the event of a category 3 hurricane, as well as capabilities that would be needed, such as disposing of large amounts of debris, and providing shelters for thousands of evacuees. The exercise involved over 300 federal, state, and local government employees, including responders and planners (Thomas 2005). However, many lessons learned during this exercise were not able to be implemented in time for Hurricane Katrina. Training and exercises help to clarify roles and responsibilities under the NRP; the GAO notes that this is a
likely problem that may lead to delays and misunderstandings in a disaster (GAO 2006). Scenario-based exercises could be successful and effective in mitigating fatalities and damage in future disasters, but only if adopted by federal, state, and local government.

**Media & Public Response:** The management of the media and relaying messages to the public are important aspects of disasters that need to be planned. The media can help or hinder disaster response, depending on the level of cooperation with localities. For example, after Katrina, the media saturated the news with images of looters, dead bodies in the street, and people trapped on their roofs. Intense images on the news can sway the public, as well as emergency responders. In New Orleans, the media coverage of looters pressured police to stop the looting, though this may not have been initially the first priority for the police force (Swope and Patton 2005). The media can be a tool to aid in the response to disasters, as evidenced by the public’s contribution of 1.4 billion dollars in response to 9/11, which was broadcast on national television as the event occurred.

The public sometimes does not listen, or act as expected, to government warnings in response to disasters. Approximately 100,000 people remained in New Orleans, ignoring the mandatory evacuation. According to a poll conducted by the Washington Post, over half of evacuees admitted they could have evacuated New Orleans before Katrina made landfall, but chose to stay. The majority of these evacuees claimed they did not believe that Katrina would be so devastating. State and local emergency managers need to address this issue that people who remain in disaster situations put themselves, as well as emergency workers in danger (Swope and Patton 2005).

**State and Local Governments are Initially Responsible:** Effective emergency management must come from the bottom up, state and local governments must take responsibility. The federal government also plays an important role, Jeb Bush’s Testimony to the House Committee on Homeland Security stated that “FEMA should serve as a conduit to the tremendous resources available at the federal level”(Bush 2005). The NRP provides a structure in which local governments must be prepared to sustain themselves for up to 72 hours before federal aid can reach the disaster area. If a
local government needs assistance in preparation or response to a disaster, it is their responsibility to request assistance from their State government. In the event that a State government needs assistance, it must request such assistance ahead of time from the federal government (DHS 2004). Some states, such as South Carolina, have properly followed this procedure; the state recently admitted to DHS that they will need outside help in the event of a disaster, detailing the specific functions for which they will need assistance (Washington 2006). New Orleans and Louisiana were not prepared to respond to and recover from the catastrophe without immediate federal aid.

Role of Private and Nonprofit Organizations: In the preparation and response to Hurricane Katrina, several nonprofits and private sector entities played key roles, though only one, the ARC, is included in the NRP. Overall, the GAO found that volunteers and donations from both the domestic and international community were not well organized or distributed, and were poorly incorporated into the response and recovery. For instance, federal agencies were not prepared to handle international assistance, and the Salvation Army and other small organizations were not coordinated well into the effort (GAO 2006).

Nonprofits and private sector entities have many resources to offer in a disaster, including volunteers, money, and food. In the NRP, the United States Department of Agriculture (USDA) and the Department of the Interior (DOI) are the primary agencies for ESF #11, Agriculture and Natural Resources (DHS 2006). This ESF is responsible for distribution of food, among other duties. During hurricanes Katrina, Rita, and Wilma, the USDA distributed over $151 million in food stamps to victims in Texas and Louisiana. However, it was the nonprofit America’s Second Harvest Network that provided 46 million meals valued at $84 million to victims. This mass distribution of food was made possible by donations from private retailers as well as the government (America’s Second Harvest 2005). The coordination of private, nonprofit, and the government was vital to providing emergency food assistance in the aftermath of Hurricane Katrina. However, there were still issues coordinating the distribution of food; for instance, evacuees in the Superdome scrounged for food and water. Strong public-private partnerships
should be developed and maintained in all areas of emergency management. Volunteer Organizations Active in Disasters can also be utilized effectively in response operations as well.

**Conclusion**

As judged by its performance in Katrina, NRP failed even more completely than the FRP failed in operations for Hurricane Andrew in 1992. Its primary mode of operation was still a hierarchical “command and control” system that had no alternative plans if the hierarchical command failed. Emergency management plans need to be living, breathing, working, flexible documents. The NRP, as well as state and local emergency plans, need to be continuously revamped, and strengthened using the knowledge gained from each disaster. Plans also need to be practiced, all of the players need to be aware of their roles and responsibilities before a disaster occurs. Practicing a plan reveals any gaps, any missing links, and develops relationships and networks between first responders and all parties involved.

Plans cannot include every possible scenario, but they can be comprehensive, include a clear chain of command, and be flexible. Emergency managers and decision makers must have plans that are flexible, they must be able to improvise in the event of unforeseen incidents, and be able to adapt to the particular nuances of each individual incident. There have been many efforts to increase planning for emergency management, including the 2003 Catastrophic Planning Initiative. This initiative was intended to link the federal, state and local governments in the identification of vulnerable geographic areas, predict impacts of disasters in those areas, examine the current disaster management capabilities, identify shortfalls, and plan to overcome these shortfalls. The ultimate goal of the Hurricane Pam exercise was to develop a catastrophic planning document. This was not accomplished in time for Hurricane Katrina, but other vulnerable areas of the country may be able to implement Catastrophic Planning Initiative efforts before another major disaster strikes.

Many are trying to sort through the critically ineffective response to Hurricane Katrina. However, it is widely felt that it will take several years to sort out responsibility for the tragic blunders of
that effort. It may in fact take years, but policy learning can begin occurring immediately. GAO will be recommending changes to the NRP, as it has done following previous disasters. Accordingly, academia, emergency management experts, and those in the field should be working towards changing their emergency management plans as well. Further research should be performed to gather first hand accounts of responders involved in Hurricane Katrina, as well as other emergency management professionals that assisted in the response or recovery. Valuable information can also be gathered from emergency management professionals that are implementing innovative changes to their emergency plans as a result of Hurricane Katrina.

References


____. 2005. Providing oversight of the nation’s preparedness,
response and recovery activities. Report Number 05-1053T.
Orleans.” The Washington Post. p A01. Retrieved on October 17,
Hardenbrook, B. J. 2005. “The need for a policy framework to
develop disaster resilient regions,” Journal of Homeland Security
for Disaster Response,” in Waugh, W. L. Jr. (ed.). Shelter from the
Storm: Repairing the National Emergency management System
after Hurricane Katrina. Special issue of The Annals of the
interorganizational coordination in the national response plan
(NRP): The evolution of complex systems,” Paper prepared
for presentation at 66th Annual ASPA National Conference,
Kapucu, N. and M. Van Wart. 2006. “The evolving role of the
public sector in managing catastrophic disaster: lessons learned.”
Administration and Society 38 (3): 279-308.
September 11 and hurricane Katrina.” Philadelphia: Fels Institute
of Government, University of Pennsylvania, Retrieved on
November 29, 2005 from http://www.sas.upenn.edu/fels/research_
service.htm.
______. 2004. System under Stress: Homeland Security and
Managers. Washington DC: ICMA.
Latham, R. 2005. Statement of Robert Latham director, Mississippi
emergency management agency. Testimony before the
Committee on House Select Katrina Response Investigation,
Federal Document Clearing House Congressional Testimony.
Congressional Quarterly, Inc.
Louisiana Office of Homeland Security and Emergency Preparedness
(LOHSEP). 2006. Lessons Learned: Hurricane Katrina and
Rita. Louisiana Office of Homeland Security and Emergency
Preparedness.
KatrinaEvacuees.pdf.


