

GAO

Report to the Committee on Homeland
Security and Governmental Affairs,
U.S. Senate

September 2008

DISASTER RECOVERY

Past Experiences
Offer Insights for
Recovering from
Hurricanes Ike and
Gustav and Other
Recent Natural
Disasters





Highlights of [GAO-08-1120](#), a report to the Committee on Homeland Security and Governmental Affairs, U.S. Senate

Why GAO Did This Study

This month, Hurricanes Ike and Gustav struck the Gulf Coast producing widespread damage and leading to federal major disaster declarations. Earlier this year, heavy flooding resulted in similar declarations in seven Midwest states. In response, federal agencies have provided millions of dollars in assistance to help with short- and long-term recovery. State and local governments bear the primary responsibility for recovery and have a great stake in its success. Experiences from past disasters may help them better prepare for the challenges of managing and implementing the complexities of disaster recovery.

GAO was asked to identify insights from past disasters and share them with state and local officials undertaking recovery activities. GAO reviewed six past disasters—the Loma Prieta earthquake in northern California (1989), Hurricane Andrew in south Florida (1992), the Northridge earthquake in Los Angeles, California (1994), the Kobe earthquake in Japan (1995), the Grand Forks/Red River flood in North Dakota and Minnesota (1997), and Hurricanes Katrina and Rita in the Gulf Coast (2005). GAO interviewed officials involved in the recovery from these disasters and experts on disaster recovery. GAO also reviewed relevant legislation, policies, and its previous work.

What GAO Recommends

GAO is not making any recommendations in this report.

To view the full product, including the scope and methodology, click on [GAO-08-1120](#). For more information, contact Stanley Czerwinski at (202) 512-6808 or czerwinkis@gao.gov.

DISASTER RECOVERY

Past Experiences Offer Insights for Recovering from Hurricanes Ike and Gustav and Other Recent Natural Disasters

What GAO Found

While the federal government provides significant financial assistance after major disasters, state and local governments play the lead role in disaster recovery. As affected jurisdictions recover from the recent hurricanes and floods, experiences from past disasters can provide insights into potential good practices. Drawing on experiences from six major disasters that occurred from 1989 to 2005, GAO identified the following selected insights:

- **Create a clear, implementable, and timely recovery plan.** Effective recovery plans provide a road map for recovery. For example, within 6 months of the 1995 earthquake in Japan, the city of Kobe created a recovery plan that identified detailed goals which facilitated coordination among recovery stakeholders. The plan also helped Kobe prioritize and fund recovery projects, in addition to establishing a basis for subsequent governmental evaluations of the recovery's progress.
- **Build state and local capacity for recovery.** State and local governments need certain capacities to effectively make use of federal assistance, including having sufficient financial resources and technical know-how. State and local governments are often required to match a portion of the federal disaster assistance they receive. Loans provided one way for localities to enhance their financial capacity. For example, after the Red River flood, the state-owned Bank of North Dakota extended the city of Grand Forks a \$44 million loan, which the city used to match funding from federal disaster programs and begin recovery projects.
- **Implement strategies for businesses recovery.** Business recovery is a key element of a community's recovery. Small businesses can be especially vulnerable to major disasters because they often lack resources to sustain financial losses. Federal, state, and local governments developed strategies to help businesses remain in the community, adapt to changed market conditions, and borrow funds at lower interest rates. For example, after the Loma Prieta earthquake, the city of Santa Cruz erected large pavilions near the main shopping street. These structures enabled more than 40 local businesses to operate as their storefronts were repaired. As a result, shoppers continued to frequent the downtown area thereby maintaining a customer base for impacted businesses.
- **Adopt a comprehensive approach toward combating fraud, waste, and abuse.** The influx of financial assistance after a major disaster provides increased opportunities for fraud, waste, and abuse. Looking for ways to combat such activities before, during, and after a disaster can help states and localities protect residents from contractor fraud as well as safeguard the financial assistance they allocate to victims. For example, to reduce contractor fraud after the Red River flood, the city of Grand Forks established a credentialing program that issued photo identification to contractors who passed licensing and criminal checks.

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United States Government Accountability Office
Washington, DC 20548

September 26, 2008

The Honorable Joseph I. Lieberman
Chairman
The Honorable Susan M. Collins
Ranking Member
Committee on Homeland Security and Governmental Affairs
United States Senate

This month, Hurricanes Ike and Gustav struck the Gulf Coast producing widespread damage and leading to federal major disaster declarations in Texas, Louisiana, and Alabama. Earlier this year, widespread flooding occurred in multiple states in the Midwest covering thousands of square miles, and resulting in billions of dollars in damaged infrastructure and crops. The severity of the impact resulted in federal major disaster declarations in Illinois, Indiana, Iowa, Minnesota, Missouri, Nebraska, and Wisconsin. Now that the winds have died down and the floodwaters have receded, these affected areas face the challenge of rebuilding damaged physical and economic infrastructure as well as helping their residents to recover.¹

Several disaster assistance programs have been activated to help Midwest residents recover from the severe flooding that occurred earlier this year. For example, according to the Federal Emergency Management Agency (FEMA) over \$400 million in federal assistance has been provided to help Iowa recover from the flooding. As of August 2008, FEMA has approved over \$109 million in housing assistance grants for rental or temporary lodging and housing repair. FEMA has also obligated more than \$79 million in Public Assistance grants in response to requests from eligible entities that will provide funds for long-term rebuilding efforts, such as restoring public infrastructure and other disaster costs in Iowa. Similarly, the Small Business Administration has also provided assistance with long-term recovery. Over \$274 million has been approved in loans for homeowners, renters, and businesses in the affected areas as of mid-August 2008.

¹Other recent natural disasters resulting in federal major disaster declarations this year include Hurricane Dolly, which made landfall in Texas in late July, and Tropical Storm Fay, which struck Florida in late August.

In contrast to the standardized set of activities and procedures typically associated with the immediate response to a disaster, the recovery process can be much more varied and complex. The particular path a community takes when recovering from a major disaster will differ as a result of several factors, including the scale of the disaster's impact, specific community needs and conditions, and the amount and type of resources available. While such specifics prevent the development of a "cookbook" for an effective recovery, potentially valuable insights can be learned from the experiences of communities that have already navigated the disaster recovery process.

To assist you in your ongoing oversight of rebuilding in the wake of Hurricanes Katrina and Rita, we briefed your staff on several occasions on the results of our ongoing work regarding recovery lessons from past disasters and how they might inform efforts on the Gulf Coast. Shortly after the Midwest experienced widespread flooding, you requested that we review the information we had collected and determine what insights might be useful to state and local officials. Accordingly, as agreed with your office, this report provides insights from six past disasters that state and local governments can consider as they move ahead with their recovery efforts following natural disasters, such as Hurricanes Ike and Gustav and the Midwest floods. In addition, we expect to issue a report next year that will build upon this framework with additional insights for how federal, state, and local governments can recover from major disasters as well as how these insights could inform ongoing efforts in the Gulf Coast.

To that end, we selected previous disasters based on interviews with academics and practitioners as well as reviews of the disaster recovery literature and our body of work on natural disasters.² We reviewed recovery experiences related to six major disasters:³ (1) the 1989 Loma Prieta earthquake in northern California; (2) Hurricane Andrew, which struck southern Florida in 1992; (3) the 1994 Northridge earthquake in Los Angeles, California; (4) the 1995 Kobe earthquake in Japan; (5) the 1997

²We selected natural disasters that occurred recently enough so that key officials and supporting documentation were still available.

³The five disasters we studied that occurred in the United States received major disaster declarations from the federal government. The sixth disaster in our study, the Kobe earthquake, was a magnitude 7.3 earthquake that killed over 6,400 people in Japan and is also considered a major disaster.

Grand Forks/Red River flood in North Dakota and Minnesota; and (6) the 2005 Gulf Coast hurricanes.⁴ We have also published a body of work on the recovery of the Gulf Coast states from the 2005 Gulf Coast hurricanes. For a list of selected GAO reports on disaster recovery, see appendix I.

Results in Brief

While the federal government provides significant financial assistance after major disasters, state and local governments play the lead role in disaster recovery. In our review of past disasters, we have identified several actions—both short- and long-term—that state and local governments can take as they prepare to recover after a major disaster. Because each disaster is distinctive and the resources and capacities of every community differ, affected jurisdictions need to consider whether and how to apply these insights to their specific circumstances.

First, state and local governments have created clear, implementable, and timely recovery plans. Such plans, which the federal government has both funded and helped communities develop, can provide a roadmap for the recovery process. In the aftermath of a disaster, a recovery plan provides state and local governments with a valuable tool to document and communicate recovery goals, decisions, and priorities. In our review of recovery plans we have identified certain shared characteristics. Specifically, these plans (1) identify clear goals for recovery, (2) include detailed information to facilitate implementation, and (3) are established in a timely manner. For example, within 6 months of the 1995 earthquake that hit Kobe, Japan, the city completed a plan that helped Kobe prioritize and fund recovery projects. The plan also established a basis for subsequent governmental evaluations of the recovery's progress.

Second, state and local governments have strengthened certain capacities—including having financial resources and technical know-how—to effectively take advantage of federal assistance. When recovering from past disasters, some local governments successfully used loans and special taxes to enhance their financial capacity. For example, after the 1997 Red River flood, the state-owned Bank of North Dakota provided a \$44 million line of credit to the city of Grand Forks, North Dakota, which the city used to meet FEMA matching requirements. Affected jurisdictions

⁴In this report, unless otherwise noted, we refer to the 1997 flood in Grand Forks, North Dakota and East Grand Forks, Minnesota, as the “Red River flood.” In addition, “the 2005 Gulf Coast Hurricanes” refers to Hurricanes Katrina and Rita, and for the purposes of this report, they are treated collectively as a single disaster event.

have also enhanced their technical capacity to navigate federal disaster programs. For example, after the 2005 Gulf Coast hurricanes, FEMA and Mississippi state officials used federal funding to obtain an on-line accounting system that tracked and facilitated the sharing of operational documents, thereby reducing the burden on applicants of meeting FEMA Public Assistance grant requirements.⁵

Third, federal, state, and local governments focused on strategies that successfully fostered business recovery after a disaster. Small businesses are vital to a community's economic health, yet are especially vulnerable to disasters because they often lack resources to sustain financial loss and have less capacity to withstand market changes. We found that some local governments developed strategies to help small businesses survive the disaster and keep them within the community. For example, by creating temporary locations for businesses, the city of Santa Cruz, California, provided businesses that suffered physical damage during the Loma Prieta earthquake with the means to continue operating. The city of Los Angeles provided technical assistance to counsel businesses on how to adapt to the changed market realities after the Northridge earthquake. The city of Grand Forks offered business loans which provided incentives to remain within the community. Further, tax incentives targeted to businesses and projects consistent with long-term recovery goals can provide another tool to help affected businesses recover.

Finally, federal, state, and local governments have looked for ways to adopt a comprehensive approach to combating fraud, waste, and abuse. The influx of financial assistance available to victims after a major disaster provides increased opportunities for fraud, waste, and abuse. Specifically, disaster victims are at increased risk for contractor fraud. To address this issue after the 1997 Red River flood, the city of Grand Forks, North Dakota established a credentialing program that issued special photo identifications to contractors who passed licensing and criminal checks. Residents were advised to check for these credentials as they hired contractors to rebuild. Also at risk for fraud, waste, and abuse are federal and state disaster assistance programs. The need to quickly provide assistance to victims puts assistance payments at risk to fraudulent applicants who try to obtain benefits that they are not entitled to receive. We have previously testified that with a framework that prevents, detects,

⁵FEMA's Public Assistance Grant Program provides funding to state and local governments to repair and rebuild damaged public buildings and infrastructure.

and monitors issues of fraud, waste, and abuse, government programs should not have to make a choice between the speedy delivery of disaster recovery assistance and effective fraud protection.⁶

We provided a draft of this report to the Federal Coordinator of Gulf Coast Recovery in the Department of Homeland Security. In addition, we provided drafts of the relevant sections of this report to officials involved in the particular practices we describe, as well as experts in disaster recovery. They generally agreed with the contents of this report. We have incorporated their technical comments as appropriate.

Background

Overview of the disaster recovery process. According to the Department of Homeland Security's *National Response Framework*, once immediate lifesaving activities are complete after a major disaster, the focus shifts to assisting individuals, households, critical infrastructure, and businesses in meeting basic needs and returning to self-sufficiency. Even as the immediate imperatives for response to an incident are being addressed, the need to begin recovery operations emerges. The emphasis on response gradually gives way to recovery operations. During the recovery phase, actions are taken to help individuals, communities, and the nation return to normal.

The *National Response Framework* characterizes disaster recovery as having two phases: short-term recovery and long-term recovery.⁷

- *Short-term recovery* is immediate and an extension of the response phase in which basic services and functions are restored. It includes actions such as providing essential public health and safety services, restoring interrupted utility and other essential services, reestablishing transportation routes, and providing food and shelter for those displaced by the incident. Although called short-term, some of these activities may last for weeks.

⁶GAO, *Hurricanes Katrina and Rita Disaster Relief: Prevention Is the Key to Minimizing Fraud, Waste, and Abuse in Recovery Efforts*, [GAO-07-418T](#) (Washington, D.C.: Jan. 29, 2007).

⁷The *National Response Framework*, issued by the Department of Homeland Security in January 2008, is a guide for how federal, state, local, and tribal governments, along with nongovernmental and private entities, will collectively respond to and recover from all disasters, particularly catastrophic disasters such as Hurricane Katrina, regardless of their causes.

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- *Long-term recovery* may involve some of the same actions as short-term recovery but may continue for a number of months or years, depending on the severity and extent of the damage sustained. It involves restoring both the individual and the community, including the complete redevelopment of damaged areas. Some examples of long-term recovery include providing permanent disaster-resistant housing units to replace those destroyed, initiating a low-interest façade loan program for the portion of the downtown area that sustained damage from the disaster, and initiating a buyout of flood-prone properties and designating them community open space.

As the President has previously noted, state and local leaders have the primary role in planning for recovery efforts. Under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), the federal government is authorized to provide assistance to those jurisdictions in carrying out their responsibilities to alleviate suffering and damage which results from disasters.⁸ In general under the Stafford Act, the federal role is to assist state and local governments—which have the primary role with regard to recovery efforts.

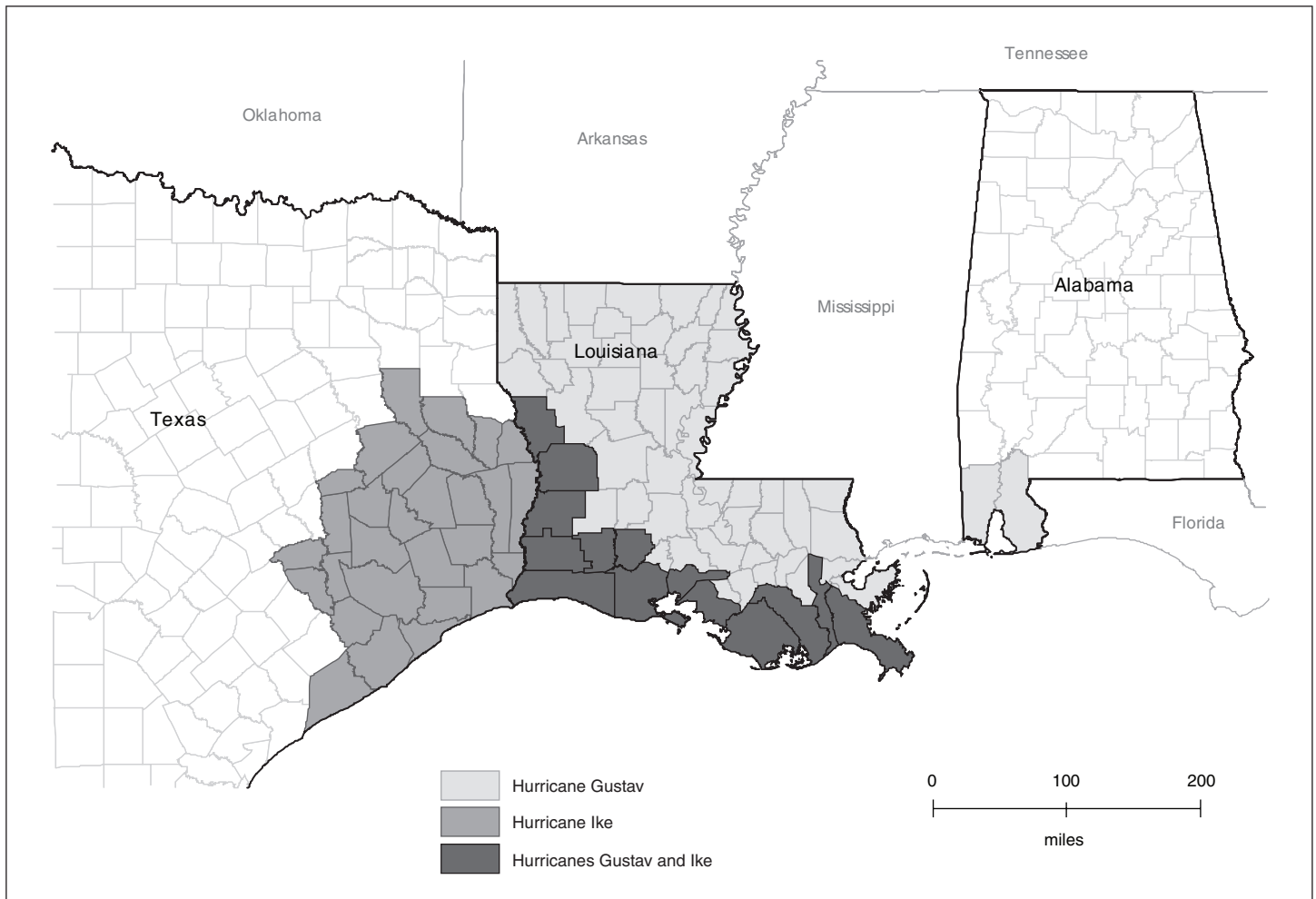
In major disasters where the event overwhelms the capacity of state and local governments, the federal government can offer more assistance to supplement the efforts and available resources of states, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused by the disaster. After a major disaster, the federal government may provide unemployment assistance; food coupons to low-income households; and repair, restoration, and replacement of certain damaged facilities, among other things. For example, the city of New Orleans estimated this April that the federal government will provide over \$15 billion for the rebuilding of the city through numerous disaster assistance programs, including FEMA’s Public Assistance Grant Program and Community Disaster Loan program, and the Department of Housing and Urban Development’s Community Development Block Grants program. Nevertheless, state and local governments have the main responsibility of applying for, receiving, and implementing federal assistance. Further, they make decisions about what priorities and projects the community will undertake for recovery.

⁸The Stafford Act, as amended, establishes the primary programs and processes for the federal government to provide major disaster and emergency assistance to states, local governments, tribal nations, individuals, and qualified private nonprofit organizations. 42 U.S.C. §§ 5121-5207.

Impact of Hurricanes Gustav and Ike. Hurricanes Gustav and Ike made landfall in the Gulf Coast this month, resulting in federal major disaster declarations for 95 counties in Texas, Louisiana, and Alabama (see fig. 1). Gustav made landfall near Cocodrie, Louisiana, as a category 2 hurricane on September 1, 2008. Ike made landfall as a category 2 hurricane near Galveston, Texas, on September 13, 2008. These hurricanes have caused widespread damage to affected Gulf Coast states. For example, the state of Louisiana has confirmed 10 Gustav-related deaths. Recent press accounts have attributed the death of about 50 people in the United States to Hurricane Ike.

Further, Hurricanes Gustav and Ike have significantly disrupted utility service as well as oil and natural gas production in the Gulf Coast. Specifically, Gustav caused power outages for over 1.1 million Louisiana and Mississippi customers, while over 2.2 million customers in Texas lost power after Ike made landfall. The hurricanes have also affected oil and natural gas production in the Gulf Coast. Most of the refineries in Gustav's path were affected, resulting in a 100 percent reduction in crude oil production. Almost all refineries in Ike's path shut down, halting crude oil production in the area by 99.9 percent. Over half of the 39 major natural gas processing plants in the affected areas have ceased operations as a result of Hurricanes Gustav and Ike, reducing the total operating capacity of the region by 65 percent. Given the recent landfall of these hurricanes, comprehensive damage assessments from government agencies were not available at the time of this report's issuance.

Figure 1: Counties in Gulf Coast States That Received Federal Major Disaster Declarations as a Result of Hurricanes Gustav and Ike

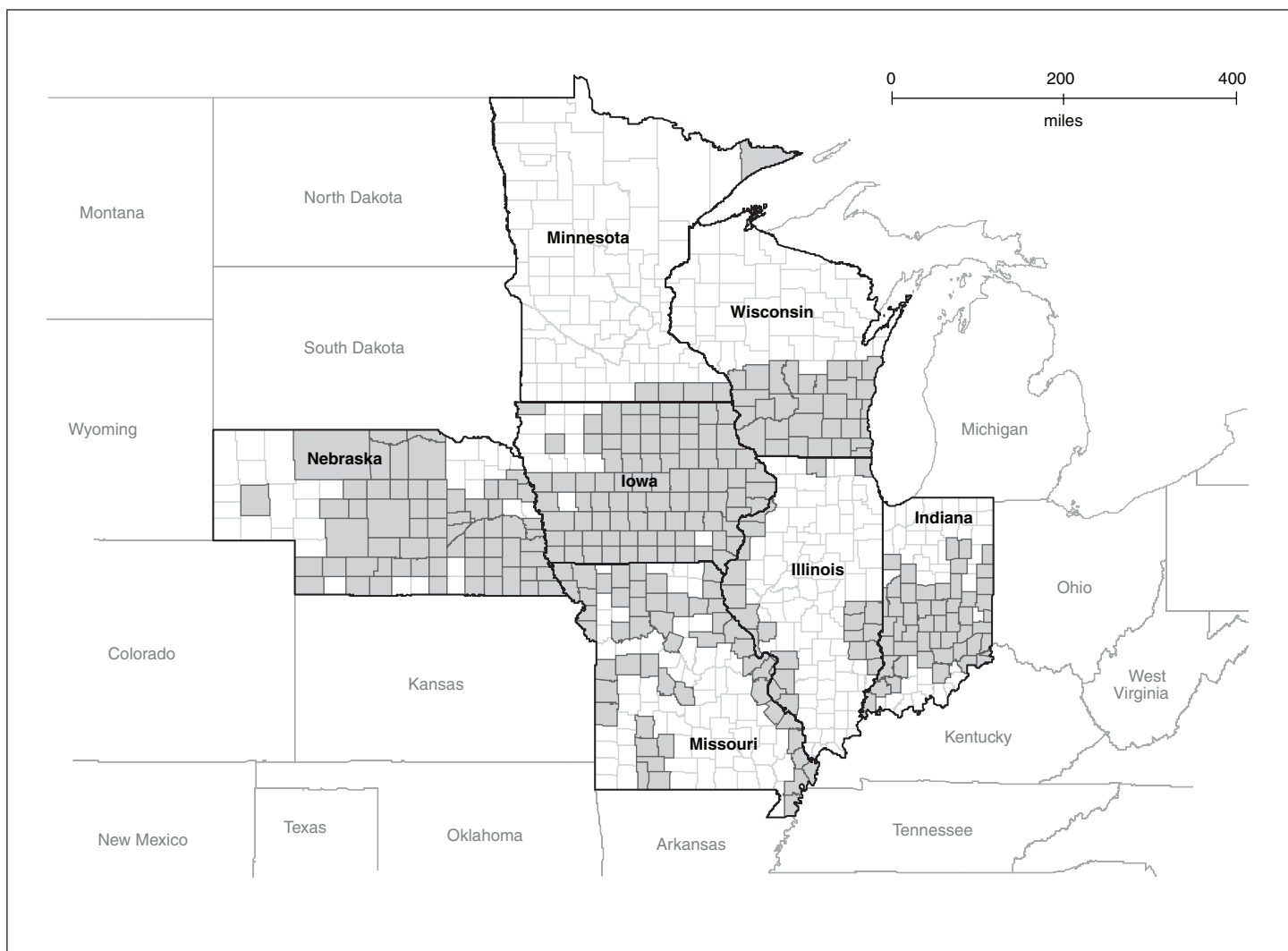


Source: GAO analysis of FEMA data.

Impact of the 2008 Midwest Floods. Heavy rainfall across much of the northern half of the Great Plains during early June 2008 resulted in river flooding. This flooding became increasingly severe as heavy rain continued into the second week of June and rising rivers threatened dams and levees and submerged large areas of farmland along with many cities and towns. As a result, the President issued federal major disaster declarations for counties in seven states: Illinois, Indiana, Iowa, Missouri, Minnesota, Nebraska, and Wisconsin (see fig. 2). The flooding resulted in widespread damage for some communities in these states. For example,

the rivers in Cedar Rapids, Iowa, crested over 30 feet, flooding 10 square miles of the city and displacing over 18,000 people and several city facilities, including the city hall, police department, and fire station. The flooding also affected agricultural production in these states. For example, the state of Indiana estimates the floods will result in a crop shortfall of \$800 million in the coming year and \$200 million in damaged farmlands.

Figure 2: Counties in Seven Midwest States That Received Federal Major Disaster Declarations as a Result of 2008's Severe Flooding



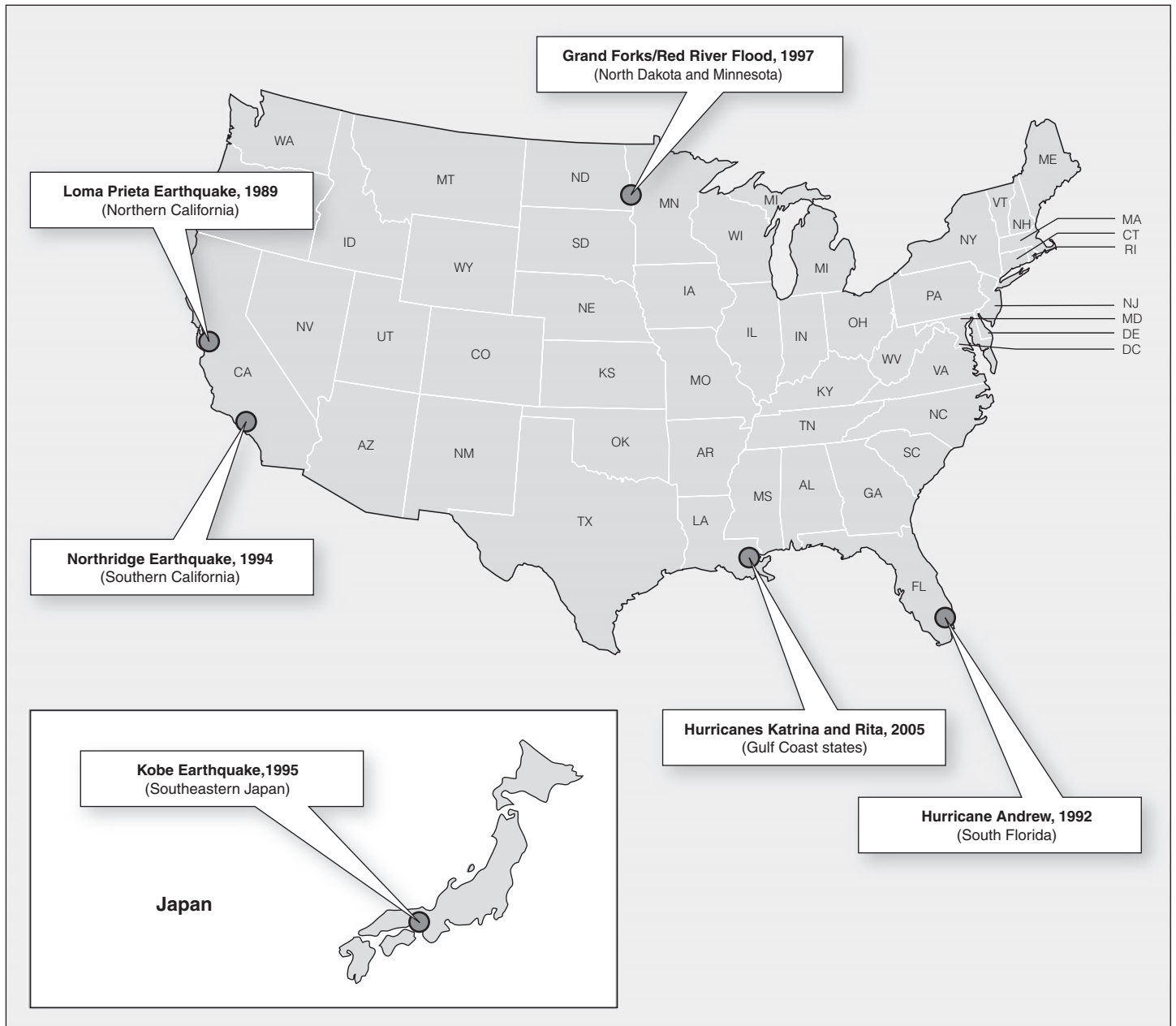
Source: GAO analysis of FEMA data.

Scope and Methodology

To identify insights from past disasters we interviewed officials involved in disaster recovery in the United States and Japan. Domestically, we met with officials from state and local governments affected by the selected disasters, as well as representatives of nongovernmental organizations involved in long-term recovery. In Japan, we met with officials from the government of Japan, Hyogo Prefecture, and the city of Kobe. In addition, we also interviewed over 40 experts—both domestic and international—on the subject of disaster recovery. We visited the key communities affected by five of the six disasters in our study to meet officials involved in the recovery effort and examine current conditions. While we did not visit communities affected by the Red River flood, we were able to gather the necessary information through interviews by telephone with key officials involved in the recovery as well as recovery experts knowledgeable about the disaster. Further, we obtained and reviewed legislation, ordinances, policies, and program documents that described steps taken to facilitate long-term recovery following each of our selected disasters. The scope of our work did not include independent evaluation or verification regarding the extent to which the communities' recovery efforts were successful.

We also drew on previous work we have conducted on recovery efforts in the aftermath of the 2005 Gulf Coast hurricanes. We have issued findings and recommendations on several aspects of the Gulf Coast recovery, including protecting federal disaster programs from fraud, waste, and abuse; providing tax incentives to assist recovery; and determining the role of the nonprofit sector in providing assistance to that region. See figure 3 for the locations of the six disasters that we selected for this review. We reviewed lessons from past disasters and collected information about the impact of Hurricanes Ike and Gustav and the 2008 Midwest floods from June 2007 through September 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Figure 3: Six Disasters Included in This Review (1989-2005)



Sources: GAO; Art Explosion (map).

Create a Clear, Implementable, and Timely Recovery Plan

After a major disaster, a recovery plan can provide state and local governments with a valuable tool to document and communicate recovery goals, decisions, and priorities. Such plans offer communities a roadmap as they begin the process of short- and long-term recovery. The process taken to develop these plans also allows state and local governments to involve the community in identifying recovery goals and priorities. After past disasters, the federal government has both funded and provided technical assistance on how to create such plans. In our review of recovery plans that state and local governments created after major disasters, we identified three key characteristics. Specifically, these plans (1) identified clear goals for recovery, (2) included detailed information to facilitate implementation, and (3) were established in a timely manner.

Identify Clear Recovery Goals

A recovery plan containing clear goals can provide direction and specific objectives for communities to focus on and strive for. Clear recovery goals can also help state and local governments prioritize projects, allocate resources, and establish a basis for subsequent evaluations of the recovery progress. After the 1995 Kobe earthquake in Japan, the areas most hard-hit by the disaster—Hyogo prefecture and the city of Kobe—identified specific recovery goals to include in their plans. Among these were the goals of rebuilding all damaged housing units in 3 years, removing all temporary housing within 5 years, and completing physical recovery in 10 years. According to later evaluations of Kobe’s recovery conducted by the city and recovery experts, these goals were critical for helping to coordinate the wide range of participants involved in the recovery. In addition, it helped to inform the national government’s subsequent decisions for funding recovery projects in these areas.

These goals also allowed the government to communicate its recovery progress with the public. Each month, information on progress made towards achieving these goals was provided to the public on-line and to the media at press conferences. This communication helped to inform the public about the government’s recovery progress on a periodic basis. Further, these goals provided a basis for assessing the recovery progress a few years after the earthquake. Both Hyogo and Kobe convened panels of international and domestic experts on disaster recovery as well as community members to assess the progress made on these targets and other recovery issues. These evaluations enabled policymakers to measure the region’s progress towards recovery, identify needed changes to existing policies, and learn lessons for future disasters.

Similar efforts to inform the public about the government’s recovery progress are being taken in the wake of the 2005 Gulf Coast hurricanes. In

February 2008, FEMA and the Federal Coordinator of Gulf Coast Recovery launched its Transparency Initiative. This web-based information sharing effort provides detailed information about selected buildings and types of projects in the Gulf Coast receiving Public Assistance grants. For example, the web site provides information on whether specific New Orleans schools are open or closed and how much federal funding is available for each school site. To do this, FEMA and Federal Coordinator staff pulled together information from state and locals as well as data on all Public Assistance grants for permanent infrastructure throughout the Gulf Coast. According to the Office of the Federal Coordinator, the initiative has been useful in providing information on federal funds available and the status of infrastructure projects in a clear and understandable way to the general public and a wide range of stakeholders.

Include Detailed Information to Facilitate Implementation

With the uncertainty that can exist after major disasters, the inclusion of detailed implementation information in recovery plans can help communities realize their recovery goals. Implementable recovery plans specify objectives and tasks, clarify roles and responsibilities, and identify potential funding sources. Approximately 3 months after the 1997 Red River flood, the city of Grand Forks approved a recovery plan with these characteristics that helped the city take action towards achieving recovery.

First, the Grand Forks plan identified 5 broad recovery goals covering areas such as housing and community redevelopment, business redevelopment, and infrastructure rehabilitation. The plan details a number of supporting objectives and tasks to be implemented in order to achieve the stated goals. For example, one of the 5 goals included the plan was to clean up, repair, and rehabilitate the city's infrastructure and restore public services to pre-flood conditions. The plan outlined 5 objectives to accomplish that goal, including repairing and rehabilitating the city's water distribution and treatment facilities. Some of the tasks specified in the plan to achieve that objective are repairing pumping stations, fixing water meters, and completing a 2-mile limit drainage master plan. Additionally, the plan identified a target completion date for each task so that the city can better manage the mix of short- and long-term activities necessary to recover.

Second, the Grand Forks recovery plan clearly identified roles and responsibilities associated with the specific tasks, which helped with achieving broader recovery goals. To do this, the plan identified which personnel—drawn from city, state, and federal agencies—would be needed to carry out each task. For example, the plan called for

collaboration of staff from the city's urban development and engineering/building inspection departments, FEMA, and the Army Corp of Engineers to create an inventory of substantially damaged buildings in the downtown area. By clarifying the roles and responsibilities of those who would be involved in accomplishing specific tasks, the plan provided detailed information to facilitate implementation.

Third, the Grand Forks plan also identified funding sources for each recovery task. For example, to fund the task of cleaning up and repairing street lights (which would help achieve the objective of cleaning, repairing, and rehabilitating the city's streets), the plan referenced sources from FEMA's Public Assistance Grant Program, the state of North Dakota, and the city's general revenue fund. The plan contained a detailed financing matrix, organized by the broader recovery goals identified in the body of the plan, which identified various funding sources for each task (see fig. 4). The matrix also included a target completion date for each task. A city evaluation of the recovery plan found that the process of specifying goals and identifying funding sources allowed the city to conceive and formulate projects in collaboration with the city council and representatives from state and local governments. This helped Grand Forks meet its recovery needs as well as adhere to federal and state disaster assistance funding laws and regulations.

Figure 4: Excerpt from the Financing Matrix in Grand Forks’ Recovery Plan Which Identified Potential Funding Sources and Target Dates for Recovery Tasks

	City General Fund	City Utility Fund	CDBG	FEMA 406	FEMA 404	Other	TBD or N/A
Recovery Operations—Infrastructure Rehabilitation							
Task Op. 9.1 Clean-up and repair of street lights, signal lights, and school beacons. (10/15)	X			X		State	
Task Op. 9.2 Patch/fill pot holes, repair catch basins and manhole washouts. (8/31)	X			X		State	
Task Op. 9.3 Initiate repairs of sidewalks, bike paths and berms. (7/15)	X			X		State	
Task Op. 9.4 Initiate street sweeping program. (7/15)	X			X		State	
Task Op. 9.5 Obtain finances to rehab damaged classified/non-classified streets. (8/1)	X			X		FHWA, State	
Task Op. 10.1 Develop contract to continue the City’s debris removal program. (7/15)	X			X			
Task Op. 10.2 Coordinate with FEMA to complete DSR for debris removal. (7/31)				X			
Task Op. 11.1 Complete repairs to stormwater collection lines and lift stations. (9/1)		X		X		State	
Task Op. 11.2 Complete southend drainway. (10/98)		X				State	
Task Op. 11.3 Initiate long-term systems rehab, cleaning/televising of collection lines. (9/30)		X		X		State	
Task Op. 12.1 Complete repairs to wastewater collection lines and lift stations. (9/1)		X		X		State	
Task Op. 12.2 Initiate long-term systems rehab, cleaning/televising of collection lines. (9/30)		X		X		State	
Task Op. 13.1 Repair intakes, transportation lines, pump stations, pre-treat, and reclamation facilities. (10/1)		X		X		State	
Task Op. 13.2 Complete technical study/pre-preliminary plan for water treatment plant. (10/1)		X		X		State	
Task Op. 13.3 Initiate preliminary engineering for water treatment plan and other key projects. (11/1)		X					
Task Op. 13.4 Repair/replace meters, maintain, facilities, water distribution maintenance. (10/1)		X		X		State	
Task Op. 13.5 Complete 2-mile limit drainage master plan for future development. (11/1)		X		X		State	

Source: City of Grand Forks, North Dakota.

Note: “CDBG” refers to the Department of Housing and Urban Development’s Community Development Block Grant Program, “FEMA 406” refers to FEMA’s Public Assistance Grant Program, “FEMA 404” refers to FEMA’s Mitigation Grant Program, and “FHWA” refers to the Federal Highway Administration.

Establish the Plan in a Timely Manner

The recovery plans created by the Hyogo and Kobe governments after the 1995 earthquake also helped to facilitate the funding of recovery projects. It served as the basis of discussions with the national government regarding recovery funding by clearly communicating local goals and needs. Towards this end, Hyogo and Kobe submitted their recovery plans to a centralized recovery organization that included officials from several national agencies including the Ministry of Finance and the Ministry of Construction. Ministry staff worked with local officials to reconcile the needs identified in their recovery plans with national funding constraints and priorities. As a result of this process, local officials were able to adjust their recovery plans to reflect national budget and funding realities.

Some state and local governments quickly completed recovery plans just a few short months after a major disaster. These plans helped to facilitate the ensuing recovery process by providing a clear framework early on. The regional governments affected by the Kobe earthquake promptly created recovery plans to help ensure that they could take advantage of central government funding as soon as possible. After the earthquake, there was a relatively short amount of time to submit proposals for the national budget in order to be considered for the coming year. Facing this deadline, local officials devised a two-phase strategy to develop a plan that could quickly identify broad recovery goals to provide a basis for budget requests to meet the national budget deadline. After that initial planning phase, the governments then collaborated with residents to develop detailed plans for specific communities.

In the first phase, Kobe focused on creating a general plan to identify broad recovery goals, such as building quality housing, restoring transportation infrastructure, and building a safer city. This first plan was issued 2 months after the earthquake and contained 1,000 projects with a budget of \$90 billion. It was designed to establish the framework for recovery actions and to provide the basis for obtaining central government funds. In the second phase, the city involved residents and local organizations, including businesses and community groups, to develop a more detailed plan for the recovery of specific neighborhoods. This second plan began 6 months after the earthquake. The two-phase planning process enabled Kobe and Hyogo to meet their tight national budget submission deadline while allowing additional time for communities to develop specific recovery strategies.

Build State and Local Capacity for Recovery

Given the lead role that state and local governments play in disaster recovery, their ability to act effectively directly affects how well communities recover after a major disaster. There are different types of capacity that can be enhanced to facilitate the recovery process. One such capacity is the ability of state and local governments to make use of various kinds of disaster assistance. The federal government—along with other recovery stakeholders, such as nongovernmental organizations—plays a key supporting role by providing financial assistance through a range of programs to help affected jurisdictions recover after a major disaster. However, state and local governments may need certain capacities to effectively make use of this federal assistance, including having financial resources and technical know-how. More specifically, state and local governments are often required to match a portion of the federal disaster assistance they receive.⁹ Further, affected jurisdictions may also need additional technical assistance on how to correctly and effectively process applications and maintain required paperwork. Following Hurricanes Ike and Gustav and the Midwest floods earlier this year, building up these capacities may improve affected jurisdictions' ability to navigate federal disaster programs.

Enhance Local Financial Capacity

After a major disaster, state and local governments may not have adequate financial capacity to perform many short- and long-term recovery activities, such as continuing government operations and paying for rebuilding projects. The widespread destruction caused by major disasters can impose significant unbudgeted expenses while at the same time decimate the local tax base. Further, federal disaster programs often require state and local governments to match a portion of the assistance they receive, which may pose an additional financial burden. In the past, affected jurisdictions have used loans from a variety of sources including federal and state governments to enhance their local financial capacity. For example, the Stafford Act authorizes FEMA to administer the Community Disaster Loan program which can be used by local governments to provide essential postdisaster services. Additionally,

⁹Under the Stafford Act, the federal share of Public Assistance grants may not be less than 75 percent of the eligible cost of repair, restoration, reconstruction, or replacement after most disasters. 42 U.S.C. § 5172(b)(1). FEMA Public Assistance regulations recommend increasing the federal share from 75 percent to not more than 90 percent whenever a disaster is so severe that actual federal obligations meet a certain benchmark level (in 2008, \$122 per capita of the state population). 44 C.F.R. § 206.47(b). The regulations also provide that “if warranted by the needs of the disaster” FEMA will recommend up to 100 percent federal funding for emergency work for a limited period in the initial days of the disaster irrespective of the per capita impact. 44 C.F.R. § 206.47(d).

affected localities have used special taxes to build local financial capacity after major disasters.

Providing a loan to local governments is one way to build financial capacity after a disaster. Soon after the 1997 Red River flood, the state-owned Bank of North Dakota provided a line of credit totaling over \$44 million to the city of Grand Forks. The city used this loan to meet FEMA matching requirements, provide cash flow for the city government to meet operating expenses, and fund recovery projects that commenced before the arrival of federal assistance. The city of New Orleans also sought state loans to help build financial capacity in the aftermath of the 2005 Gulf Coast hurricanes. The city is working with Louisiana to develop a construction fund to facilitate recovery projects. The fund would enable New Orleans to have more access to money to fund projects upfront and reduce the level of debt that the city would otherwise incur.

Another way to augment local financial capacity is to raise revenue through temporary taxes that local governments can target according to their recovery needs. After the 1989 Loma Prieta earthquake, voters in Santa Cruz County took steps to provide additional financial capacity to affected localities. The county implemented a tax increment, called “Measure E,” about 1 year after the disaster, which increased the county sales tax by ½ cent for 6 years. The proceeds were targeted to damaged areas within the county based on an allocation approved by voters. Measure E generated approximately \$12 million for the city of Santa Cruz, \$15 million for the city of Watsonville, and \$17 million for unincorporated areas of Santa Cruz County.

According to officials from Watsonville and Santa Cruz, Measure E provided a critical source of extra funding for affected Santa Cruz County localities. For example, officials from Watsonville (whose general fund annual budget was about \$17 million prior to the earthquake) used proceeds from Measure E to meet matching requirements for FEMA’s Public Assistance Grant Program. These officials also used Measure E to offset economic losses from the earthquake, as well as provide financing for various recovery projects, such as creating programs to repair damaged homes and hiring consultants that helped the community plan for long-term recovery. While raising local sales taxes may not be a feasible option for all communities, Santa Cruz officials recognized the willingness of county voters to support this strategy. Similarly, state and local governments in the Gulf Coast and Midwest states can look to develop strategies for increasing financial capacity in ways that are both practical and appropriate for their communities.

Strengthen Local Technical Capacity

State and local governments face the challenge of implementing the wide range of federal programs that provide assistance for recovery from major disasters. Some of these federal programs require a certain amount of technical know-how to navigate. For example, FEMA's Public Assistance Grant Program has complicated paperwork requirements and multistage application processes that can place considerable demands on applicants.

After the 2005 Gulf Coast hurricanes, FEMA and Mississippi state officials used federal funding to obtain an on-line accounting system that tracked and facilitated the sharing of operational documents, thereby reducing the burden on applicants of meeting Public Assistance Grant Program requirements. According to state and local officials, the state contracted with an accounting firm that worked hand-in-hand with applicants to regularly scan and transmit documentation on architectural and engineering estimates, contractor receipts, and related materials from this Web-based system. As a result, FEMA and the state had immediate access to key documents that helped them to make project approval decisions. Further, local officials reported that this information-sharing tool, along with contractor staff from an accounting firm, helped to relieve the documentation and resulting human capital burdens that state and local applicants of the Public Assistance Grant Program faced during project development.

Implement Strategies for Business Recovery

Business recovery is a key element of a community's recovery after a major disaster. Small businesses are especially vulnerable to these events because they often lack resources to sustain physical losses and have little ability to adjust to market changes. Widespread failure of individual businesses may hinder a community's recovery. Federal, state, and local governments have developed strategies to facilitate business recovery, including several targeted at small businesses. These strategies helped businesses adapt to postdisaster market conditions, helped reduce business relocation, and allowed businesses to borrow funds at lower interest rates than would have been otherwise available.

Provide Technical Assistance to Help Businesses Adapt to Postdisaster Realities

Major disasters can change communities in ways that require businesses to adapt. For example, following Hurricane Andrew, large numbers of people left south Miami-Dade County. The closing of Homestead Air Force Base, which was permanently evacuated just hours before the hurricane struck, reduced the population of the area significantly. Moreover, the base closure removed families and individuals with reliable incomes and spending power. Following the departure of Air Force personnel and dependents, winter residents and retired people also left in great numbers,

never to return. Today, the city of Homestead is an entirely different place as community demographics have changed dramatically. Businesses that did not adapt to this new reality did not survive.

The extent to which business owners can recognize change and adapt to the postdisaster market for goods and services can help those firms attain long-term viability after a disaster. Recognizing this after the Northridge earthquake, Los Angeles officials assisted neighborhood businesses in adapting to short- and long-term changes, using a combination of federal, state, and local funds. The Northridge earthquake caused uneven damage throughout the Los Angeles area, leaving some neighborhoods largely intact while creating pockets of damaged, abandoned buildings. Businesses in these areas suffered physical damage and the loss of customers when area residents abandoned their homes.

The Valley Economic Development Center (VEDC), a local non-profit, established an outreach and counseling program to provide direct technical assistance to affected businesses throughout the San Fernando Valley after the Northridge earthquake. With funding from the city of Los Angeles, the state of California, and the Small Business Administration, VEDC provided guidance on obtaining federal and local governmental financial assistance, as well as strategies for adjusting to changes in the business environment. Toward this end, VEDC staff went door-to-door in affected business districts, served as a clearinghouse for information on earthquake recovery, sponsored workshops, reached out to business owners, and collected detailed information about businesses. VEDC also hosted conferences that taught business owners how to strategically market goods and services given the changed demographics. Speakers at these conferences provided information about the economic and social impact of the earthquake. VEDC estimates that over 6,000 businesses were served by these efforts. Additionally, they found that these services helped saved almost 8,000 jobs in the San Fernando Valley. Continuing programs provided counseling and assistance with applying for financial assistance to hundreds of businesses for more than 5 years after the earthquake.

The potential value of this type of technical assistance is illustrated by an example of a Northridge business that did not receive it. A well-established fish market outside of the San Fernando Valley reopened after the earthquake with the intention of resuming its formerly successful business of selling the same inventory that it sold before the disaster. However, as a result of the earthquake, the area's customer base had changed significantly and the new population did not purchase the market's merchandise. Despite spending his life savings to restore the

Create Strategies to Minimize
Business Relocation and the
Loss of Customer Base

business, the owner suffered considerable losses and eventually was forced to close the fish market after the lease expired.

Since major disasters can bring significant change to business environments, communities may look for ways to help retain some existing businesses because widespread relocation can hinder recovery. In an effort to minimize relocations after the Red River flood, the city of Grand Forks created incentives to encourage businesses to remain in the community using funds from the Department of Housing and Urban Development's Community Development Block Grant program and the Department of Commerce's Economic Development Administration. Grand Forks developed a program that provided \$1.75 million in loans to assist businesses that suffered physical damage in the flood. This program offered 15-year loans with no interest or payments required for the first 5 years of the loan. In addition, businesses which continued to operate within the city at the end of 3 years had 40 percent of the loan's principal forgiven. A Grand Forks official said that over 70 percent of the businesses that received the loan stayed in the community for at least 3 years. This official also estimated that over 40 percent of the businesses would have closed without the loan program.

The city of Santa Cruz also took steps to minimize the relocation of businesses from its downtown shopping district, which also helped to maintain a customer base for the community. Within weeks of the Loma Prieta earthquake, the city worked together with community groups to construct seven large aluminum and fabric pavilions where local businesses that suffered physical damage temporarily relocated. These pavilions, located in parking areas 1 block behind the main commercial area, were leased to businesses displaced by the earthquake. Over 40 retail stores, including bookstores, cafes, and hardware stores, operated out of the pavilions for up to 3 years while storefronts were rebuilt (see fig. 5). City officials stated that these pavilions help to mitigate the impact of the earthquake on small businesses by enabling them to continue operations and thereby maintain their customer base.

Figure 5: Temporary Pavilions in Santa Cruz, California, Following the Loma Prieta Earthquake



Source: Photograph courtesy of Charles Eadie (1990).

In contrast, officials near Santa Cruz in the city of Watsonville did not create such temporary locations after the Loma Prieta earthquake, and as a result, businesses moved out of the downtown area to a newly completed shopping center on the outskirts of the city. With the relocation of these businesses, some consumers stopped shopping in remaining stores in the downtown area. A senior Watsonville official told us that these business relocations continue to hamper the recovery of the downtown district almost two decades after the earthquake.

Implement an Allocation Strategy that Uses Federal Tax Incentives in a Manner Consistent with Long-term Recovery Goals

The federal government has used tax incentives to stimulate business recovery after major disasters. These incentives provide businesses with financial resources for recovery that may otherwise not be available. Certain tax incentives are open-ended, meaning that any individual or business that meets specified federal requirements may claim the tax incentives. States allocate other tax incentives to selected businesses, projects, or local governments and ensure allocations do not exceed limits set for each state. For those tax incentives where the states have primary allocation responsibility, an opportunity exists for states to allocate the

incentives in a manner consistent with their communities' recovery goals. Midwest and other states may find value in considering the experiences of communities recovering from past disasters when developing their own approach in how to allocate these incentives.

The Congress created tax incentives after the 2005 hurricanes through the Gulf Opportunity Zone Act of 2005 (GO Zone Act) in part to promote business recovery.¹⁰ Following those hurricanes, affected state governments were responsible for allocating four tax incentives, including a \$14.9 billion tax-exempt private activity bond authority to assist business recovery.¹¹ These bonds allowed businesses to borrow funds at lower interest rates than would have otherwise been available because investors purchasing the bonds are not required to pay taxes on the interest they earn on the bonds.¹² The Gulf Coast states exercising this authority are using the tax-exempt private activity bonds for a wide range of purposes to support different businesses, including manufacturing facilities, utilities, medical offices, mortgage companies, hotels, and retail facilities.

Under the GO Zone Act, authorized states have established processes and selected which projects were to receive these bond allocations up to each state's allocation authority limit. These states generally used a first-come, first-served basis for allocating the rights to issue tax-exempt private activity bonds under the GO Zone Act and did not consistently target the bond authority to assist recovery in the most damaged areas at the beginning of the program. Officials in Louisiana and Mississippi involved

¹⁰Pub. L. No. 109-135, 119 Stat. 2577 (Dec. 21, 2005). The GO Zone Act of 2005 also included a number of tax incentives available to businesses and individuals not subject to state allocation limits. These provisions are not addressed in the scope of this report.

¹¹In addition to the tax-exempt private activity bond authority, the GO Zone Act of 2005 authorized Gulf Coast states additional low-income housing tax credit authority for building rental housing, authority to advance refund certain tax-exempt bonds that could not otherwise be advance refunded, and issue tax credit bonds, a relatively new form of tax incentive where investors receive a credit against their tax liability in lieu of receiving interest on the bonds. The latter two provisions provided debt relief to the states in the aftermath of the Gulf Coast hurricanes. For more information on how these provisions were allocated and used in the GO Zone, see GAO, *Gulf Opportunity Zone: States Are Allocating Federal Tax Incentives to Finance Low-Income Housing and a Wide Range of Private Facilities*, [GAO-08-913](#) (Washington, D.C.: July 16, 2008).

¹²This bond authority is broadly similar to that offered to the city of New York, referred to as the New York Liberty Zone, following the September 11, 2001, terrorist attacks. See GAO, *Tax Administration: Information Is Not Available to Determine Whether \$5 Billion in Liberty Zone Tax Incentives Will Be Realized*, [GAO-03-1102](#) (Washington, D.C.: Sept. 30, 2003) for more information.

in allocating this authority acknowledged that the first-come, first-served approach made it difficult for applicants in some of the most damaged areas to make use of the bond provision immediately following the 2005 hurricanes. Counties and parishes in the most damaged coastal areas of Louisiana and Mississippi faced challenges dealing with the immediate aftermath of the hurricanes and could not focus on applying for this authority. Louisiana recently set aside a portion of its remaining allocation authority for the most damaged parishes.

This July, legislation was introduced in Congress modeled after the GO Zone Act, which, among other tax incentives, would provide private activity bond allocation authority to certain Midwest states to help the victims of this year's floods.¹³ Under the proposed legislation, similar to the GO Zone Act, affected states would also have the authority to allocate additional low-income housing tax credits for rental housing and issue tax credit bonds for temporary debt relief, among other provisions. The Gulf Coast states' first-come, first-served allocation process meant, according to some officials we interviewed, that some projects that would have been viable without tax-exempt private activity bond financing received tax-exempt private activity bond allocations. Such allocations may not have fully supported the long-term recovery goals of that region. This may be particularly relevant to Midwest states given that the proposed legislation contains provisions related to tax-exempt private activity bonds similar to those authorized by the GO Zone Act of 2005.

Adopt a Comprehensive Approach to Combating Fraud, Waste, and Abuse

The influx of federal financial assistance available to victims after a major disaster provides increased opportunities for fraud, waste, and abuse. Disaster victims are at risk, as well as the public funds supporting government disaster programs. Specifically, many disaster victims hire contractors to repair or rebuild their homes using financial assistance from the government. Residents are potential targets for fraud by unscrupulous contractors. In addition, government programs are also vulnerable: the need to quickly provide assistance to disaster victims puts assistance programs at risk of fraudulent applicants trying to obtain benefits that they are not entitled to receive. We identified two actions that state and local governments can take after major disasters to combat fraud, waste, and abuse.

¹³H.R. 6587, 110th Cong. (2008); S. 3322, 110th Cong. (2008).

Require Credentialing to Help Reduce Contractor Fraud

Communities are often faced with the problem of contractor fraud after major disasters as large numbers of residents look to hire private firms to repair or rebuild their homes and businesses. For example, after Hurricane Andrew in 1992, over 7,000 homeowners filed formal complaints of contractor fraud with Miami-Dade County's Construction Fraud Task Force from August 1993 through March 1995. An official from the Miami-Dade Office of the State Attorney reported that they successfully prosecuted more than 300 felony cases, over 290 misdemeanor cases, and resulting in the restitution of more than \$2.6 million to homeowners by October 1996. Other complaints that were not criminal in nature resulted in substantial administrative fines and additional restitution. More recently, FEMA and Midwest states anticipate that fraud will also be a concern after this year's floods and have issued warnings to residents about the need to be vigilant for potentially fraudulent contractors. To help address this issue, FEMA has issued tips and guidelines to the public about hiring contractors.

To help protect its residents from contractor fraud after the Red River flood, the city of Grand Forks established a required credentialing program for contractors. This included a "one-stop shop" that served as a mandatory clearinghouse for any contractor who wanted to do business with recovering residents. The clearinghouse was staffed by representatives from a range of city and state offices, including the North Dakota Secretary of State, the North Dakota Attorney General, the North Dakota Workers Compensation Bureau, the North Dakota Bureau of Criminal Investigations, and the Grand Forks Department of Administration and Licensing. These staff carried out a variety of functions, including checking that contractors had appropriate licenses, insurance, and no criminal records, in addition to collecting application fees and filing bonding information. After passing these checks and completing all the required applications, contractors were issued photo identification cards, which they were required to carry at all times while working within the city limits.

To inform its citizens about this program, Grand Forks officials conducted press briefings urging residents to check for these photo identifications and to hire only credentialed contractors. In about 2 months, the city issued approximately 500 new contractor licenses and 2,000 contractor identification cards through the one-stop shop. During that same period, officials arrested more than 20 individuals who had outstanding warrants. City and state officials credited this approach with playing a key role in limiting contractor fraud in Grand Forks during the recovery from the Red River flood.

Establish State Framework to
Combat Fraud, Waste, and
Abuse

In the wake of this year's flooding, the city of Cedar Rapids, Iowa, has created a similar contractor credentialing program modeled after Grand Forks' One-Stop-Shop program, in an effort to minimize instances of contractor fraud. Cedar Rapid's program requires contractors to visit a local mall where representatives from the police department and community development, and code enforcement divisions are assembled. There, city officials check contractors' licenses and insurance policies, as well as conducting criminal background checks. Similar to Grand Forks' program, contractors who pass checks are issued photo identification cards. Those who do not obtain identification before working in the area can incur a fine of \$100 or face up to 30 days of jail time. As of August 2008, over 900 local and out-of-town contracting companies and 6,200 individual contractors have been credentialed through this program. Twelve people have been arrested as a result of outstanding warrants that were identified through criminal background checks.

Our prior work on FEMA's Individuals and Households Program payments and the Department of Homeland Security's purchase card program show that fraud, waste, and abuse related to disaster assistance in the wake of the 2005 Gulf Coast hurricanes are significant.¹⁴ We have previously estimated improper and potentially fraudulent payments related to the Individuals and Households Program application process to be approximately \$1 billion of the first \$6 billion provided.¹⁵ In addition, FEMA provided nearly \$20 million in duplicate payments to individuals who registered and received assistance twice by using the same Social Security number and address.¹⁶ Similarly, the Hurricane Katrina Fraud Task Force—comprised of the Department of Justice's Criminal Division and Offices of the United States Attorneys; several other federal agencies, including the Federal Bureau of Investigations, Secret Service, and Securities and Exchange Commission; and various representatives of state and local law enforcement—have collaborated to prosecute instances of fraud related to the hurricane. According to the Office of the Federal

¹⁴[GAO-07-418T](#).

¹⁵GAO, *Hurricanes Katrina and Rita Disaster Relief: Improper and Potentially Fraudulent Individual Assistance Payments Estimated to Be Between \$600 Million and \$1.4 Billion*, [GAO-06-844T](#) (Washington, D.C.: June 14, 2006).

¹⁶[GAO-07-418T](#). We have issued a large body of work on fraud, waste, and abuse of federal disaster relief programs after the 2005 hurricanes. See appendix I for a list of reports and testimonies on this issue.

Coordinator of Gulf Coast Recovery, the efforts of the task force have resulted in the indictment of over 890 cases of fraud to date.

Because of the role state governments play in distributing and allocating this federal assistance, these known vulnerabilities call for states to establish effective controls to minimize opportunities for individuals to defraud the government. With the need to provide assistance quickly and expedite purchases, programs without effective fraud prevention controls can end up losing millions or potentially billions of dollars to fraud, waste, and abuse. We have previously testified on the need for fraud prevention controls, fraud detection, monitoring adherence to controls throughout the entire program life, collection of improper payments, and aggressive prosecution of individuals committing fraud.¹⁷ These controls are crucial whether dealing with programs to provide housing and other needs assistance or other recovery efforts. By creating such a fraud protection framework—especially the adoption of fraud prevention controls—government programs should not have to make a choice between the speedy delivery of disaster recovery assistance and effective fraud protection.

Concluding Observations

While receiving millions of dollars in federal assistance, state and local governments bear the main responsibility for helping communities cope with the destruction left in the wake of major disasters. Now that the wind and storm surge from Hurricanes Ike and Gustav have passed and the Midwest flood waters have subsided, state and local governments face a myriad of decisions regarding the short- and long-term recovery of their communities. We have seen that actions taken shortly after a major disaster and during the early stages of the recovery process can have a significant impact on the success of a community's long-term recovery. Accordingly, this is a critical time for communities affected by these major disasters.

Insights drawn from state and local governments that have experienced previous major disasters may provide a valuable opportunity for officials to anticipate challenges and adopt appropriate strategies and approaches early on in the recovery process. There is no one right way for how state and local governments should manage recovery from a major disaster, nor is there a recipe of techniques that fits all situations. While many of the

¹⁷See [GAO-07-418T](#).

practices we describe in this report were tailored to the specific needs and conditions of a particular disaster, taken together, they can provide state and local officials with a set of tools and approaches to consider as they move forward in the process of recovering from major disasters.

Agency Comments

We provided a draft of this report to the Federal Coordinator of Gulf Coast Recovery in the Department of Homeland Security. In addition, we provided drafts of the relevant sections of this report to officials involved in the particular practices we describe, as well as experts in disaster recovery. They generally agreed with the contents of this report. We have incorporated their technical comments as appropriate.

We are sending copies of this report to other interested congressional committees, the Secretary of Homeland Security, the FEMA Administrator, and state and local officials affected by Hurricanes Ike and Gustav as well as the Midwest floods. We will make copies available to others on request. In addition, the report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

If you or your staff have any questions regarding this report, please contact me at (202) 512-6806 or czerwinski@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix II.



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Strategic Issues

Appendix I: Selected GAO Products Related to Disaster Recovery

Recovery from the 2005 Gulf Coast Hurricanes

Gulf Coast Rebuilding: Observations on Federal Financial Implications. [GAO-07-1079T](#). Washington, D.C.: August 2, 2007.

Preliminary Information on Rebuilding Efforts in the Gulf Coast. [GAO-07-809R](#). Washington, D.C.: June 29, 2007.

Gulf Coast Rebuilding: Preliminary Observations on Progress to Date and Challenges for the Future. [GAO-07-574T](#). Washington, D.C.: April 12, 2007.

Catastrophic Disasters: Enhanced Leadership, Capabilities, and Accountability Controls Will Improve the Effectiveness of the Nation's Preparedness, Response, and Recovery System. [GAO-06-618](#). Washington, D.C.: September 6, 2006.

Hurricane Katrina: GAO's Preliminary Observations Regarding Preparedness, Response, and Recovery. [GAO-06-442T](#). Washington, D.C.: March 8, 2006.

Hurricane Katrina: Providing Oversight of the Nation's Preparedness, Response, and Recovery Activities. [GAO-05-1053T](#). Washington, D.C.: September 28, 2005.

Agricultural Issues

Department of Agriculture, Farm Service Agency: 2005 Section 32 Hurricane Disaster Programs; 2006 Livestock Assistance Grant Program. [GAO-07-715R](#). Washington, D.C.: April 16, 2007.

Department of Agriculture, Commodity Credit Corporation: 2006 Emergency Agricultural Disaster Assistance Programs. [GAO-07-511R](#). Washington, D.C.: April 16, 2007.

Contracting Issues

Small Business Contracting: Observations from Reviews of Contracting and Advocacy Activities of Federal Agencies. [GAO-07-1255T](#). Washington, D.C.: September 26, 2007.

Hurricane Katrina: Agency Contracting Data Should Be More Complete Regarding Subcontracting Opportunities for Small Business. [GAO-07-698T](#). Washington, D.C.: April 12, 2007.

Hurricane Katrina: Agency Contracting Data Should Be More Complete Regarding Subcontracting Opportunities for Small Businesses. [GAO-07-205](#). Washington, D.C.: March 1, 2007.

Hurricane Katrina: Improving Federal Contracting Practices in Disaster Recovery Operations. [GAO-06-714T](#). Washington, D.C.: May 4, 2006.

Hurricane Katrina: Army Corps of Engineers Contract for Mississippi Classrooms. [GAO-06-454](#). Washington, D.C.: May 1, 2006.

Hurricane Katrina: Planning for and Management of Federal Disaster Recovery Contracts. [GAO-06-622T](#). Washington, D.C.: April 10, 2006.

Hurricanes Katrina and Rita: Preliminary Observations on Contracting for Response and Recovery Efforts. [GAO-06-246T](#). Washington, D.C.: November 8, 2005.

Hurricanes Katrina and Rita: Contracting for Response and Recovery Efforts. [GAO-06-235T](#). Washington, D.C.: November 2, 2005.

Fraud, Waste, and Abuse

Hurricane Katrina: Ineffective FEMA Oversight of Housing Maintenance Contracts in Mississippi Resulted in Millions of Dollars of Waste and Potential Fraud. [GAO-08-106](#). Washington, D.C.: November 16, 2007.

Hurricanes Katrina and Rita Disaster Relief: Continued Findings of Fraud, Waste, and Abuse. [GAO-07-300](#). Washington, D.C.: March 15, 2007.

Hurricanes Katrina and Rita Disaster Relief: Prevention Is the Key to Minimizing Fraud, Waste, and Abuse in Recovery Efforts. [GAO-07-418T](#). Washington, D.C.: January 29, 2007.

Response to a post hearing question related to GAO's December 6, 2006 testimony on continued findings of fraud, waste, and abuse associated with Hurricanes Katrina and Rita relief efforts. [GAO-07-363R](#). Washington, D.C.: January 12, 2007.

Hurricanes Katrina and Rita Disaster Relief: Continued Findings of Fraud, Waste, and Abuse. [GAO-07-252T](#). Washington, D.C.: December 6, 2006.

Purchase Cards: Control Weaknesses Leave DHS Highly Vulnerable to Fraudulent, Improper, and Abusive Activity. [GAO-06-1117](#). Washington, D.C.: September 28, 2006.

Hurricanes Katrina and Rita: Unprecedented Challenges Exposed the Individuals and Households Program to Fraud and Abuse; Actions Needed to Reduce Such Problems in Future. [GAO-06-1013](#). Washington, D.C.: September 27, 2006.

Disaster Relief: Governmentwide Framework Needed to Collect and Consolidate Information to Report on Billions in Federal Funding for the 2005 Gulf Coast Hurricanes. [GAO-06-834](#). Washington, D.C.: September 5, 2006.

Individual Disaster Assistance Programs: Framework for Fraud Prevention, Detection, and Prosecution. [GAO-06-954T](#). Washington, D.C.: July 12, 2006.

Expedited Assistance for Victims of Hurricanes Katrina and Rita: FEMA's Control Weaknesses Exposed the Government to Significant Fraud and Abuse. [GAO-06-655](#). Washington, D.C.: June 16, 2006.

Hurricanes Katrina and Rita Disaster Relief: Improper and Potentially Fraudulent Individual Assistance Payments Estimated to Be Between \$600 Million and \$1.4 Billion. [GAO-06-844T](#). Washington, D.C.: June 14, 2006.

Expedited Assistance for Victims of Hurricanes Katrina and Rita: FEMA's Control Weaknesses Exposed the Government to Significant Fraud and Abuse. [GAO-06-403T](#). Washington, D.C.: February 13, 2006.

Housing Issues

Disaster Housing: Implementation of FEMA's Alternative Housing Pilot Program Provides Lessons for Improving Future Competitions. [GAO-07-1143R](#). Washington, D.C.: August 31, 2007.

Disaster Assistance: Better Planning Needed for Housing Victims of Catastrophic Disasters. [GAO-07-88](#). Washington, D.C.: February 28, 2007.

Human Services and Environmental Protection Issues

Hurricane Katrina: Continuing Debris Removal and Disposal Issues. [GAO-08-985R](#). Washington, D.C. August 25, 2008.

Hurricane Katrina: Trends in the Operating Results of Five Hospitals in New Orleans before and after Hurricane Katrina. [GAO-08-681R](#). Washington, D.C.: July 17, 2008.

Hurricane Katrina: EPA's Current and Future Environmental Protection Efforts Could Be Enhanced by Addressing Issues and

Challenges Faced on the Gulf Coast. [GAO-07-651](#). Washington, D.C.: June 25, 2007.

Hurricane Katrina: Allocation and Use of \$2 Billion for Medicaid and Other Health Care Needs. [GAO-07-67](#). Washington, D.C.: February 28, 2007.

Hurricanes Katrina and Rita: Federal Actions Could Enhance Preparedness of Certain State-Administered Federal Support Programs. [GAO-07-219](#). Washington, D.C.: February 7, 2007.

Hurricane Katrina: Status of Hospital Inpatient and Emergency Departments in the Greater New Orleans Area. [GAO-06-1003](#). Washington, D.C.: September 29, 2006.

Child Welfare: Federal Action Needed to Ensure States Have Plans to Safeguard Children in the Child Welfare System Displaced by Disasters. [GAO-06-944](#). Washington, D.C.: July 28, 2006.

Lessons Learned for Protecting and Educating Children after the Gulf Coast Hurricanes. [GAO-06-680R](#). Washington, D.C.: May 11, 2006.

Hurricane Katrina: Status of the Health Care System in New Orleans and Difficult Decisions Related to Efforts to Rebuild It Approximately 6 Months After Hurricane Katrina. [GAO-06-576R](#). Washington, D.C.: March 28, 2006.

Infrastructure Issues

Army Corps of Engineers: Known Performance Issues with New Orleans Drainage Canal Pumps Have Been Addressed, but Guidance on Future Contracts Is Needed. [GAO-08-288](#). Washington, D.C.: December 31, 2007.

U.S. Army Corps of Engineers' Procurement of Pumping Systems for the New Orleans Drainage Canals. [GAO-07-908R](#). Washington, D.C.: May 23, 2007.

Hurricane Katrina: Strategic Planning Needed to Guide Future Enhancements Beyond Interim Levee Repairs. [GAO-06-934](#). Washington, D.C.: September 6, 2006.

Small Business Assistance Issues

Small Business Administration: Response to the Gulf Coast Hurricanes Highlights Need for Enhanced Disaster Preparedness. [GAO-07-484T](#). Washington, D. C.: February 14, 2007.

Tax Issues

Small Business Administration: Additional Steps Needed to Enhance Agency Preparedness for Future Disasters. [GAO-07-114](#). Washington, D.C.: February 14, 2007.

Small Business Administration: Actions Needed to Provide More Timely Disaster Assistance. [GAO-06-860](#). Washington, D.C.: July 28, 2006.

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Appendix II: GAO Contact and Staff Acknowledgments

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Acknowledgements

In addition to the individual named above, Peter Del Toro, Assistant Director; Patrick Breiding; Michael Brostek; Keya Chateaufneuf; Thomas Gilbert; Shirley Hwang; Gregory Kutz; Donna Miller; John Mingus; MaryLynn Sergent; and Diana Zinkl made key contributions to this report.

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