Testimony
Before the Subcommittee on Emergency Communications, Preparedness, and Response, Committee on Homeland Security, House of Representatives

DISASTER RECOVERY
Past Experiences Offer Recovery Lessons for Hurricanes Ike and Gustav and Future Disasters

Statement of Stanley J. Czerwinski, Director
Strategic Issues
DISASTER RECOVERY

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What GAO Found

Lessons from past disasters provide a potentially valuable source of information for all levels of government as they seek to meet the many challenges of recovering from a major disaster. For affected state and local jurisdictions, good practices to consider include the following:

- Creating a clear, implementable, and timely recovery plan can provide communities with a road map for the recovery process. Just 2 months after the 1995 Kobe earthquake in Japan, the city created a recovery plan with these elements.

- Providing financial and technical capacity facilitates jurisdictions' ability to implement federal disaster programs. For example, loans and technical assistance provided after past disasters helped communities better navigate the wide range of federal disaster programs.

- Implementing business recovery strategies to minimize business relocations helps small businesses adapt to postdisaster market conditions. For example, to encourage businesses to remain in the city Grand Forks after the 1997 flood, the city forgave loans for businesses that stayed in the city.

- Adopting a comprehensive approach toward combating fraud, waste, and abuse protects both disaster victims from contractor fraud and public funds from fraudulent applicants. Controls to combat such activities before, during, and after a disaster can deter such activities, including instances of contractor fraud.

On the federal level, experiences with FEMA’s Public Assistance grant program after the 2005 Gulf Coast hurricanes illustrated a variety of challenges in the day-to-day operation of the program that could be faced again by Gulf Coast states recovering from Hurricanes Ike and Gustav or other disasters in the future. These include the following:

- Challenges using program flexibilities to respond to the postdisaster needs of grant applicants and determining project scope. For example, applicants reported needing additional flexibility when rebuilding to address significant population changes after the storm.

- Challenges in sharing information among federal, state, and local officials during project development that at times slowed the process. For example, some applicants in Louisiana told us of the need to repeatedly resubmit key project documents because of the lack of an effective system to share such documentation.

Opportunities exist for the federal government to further refine FEMA’s Public Assistance grant program to better address these and other challenges as recovery continues on the Gulf Coast and in advance of future disasters.
Mr. Chairman and Members of the Subcommittee:

Recovery from major disasters is a complex undertaking that involves the combined efforts of all levels of government in order to succeed. While the federal government provides a significant amount of financial and technical assistance for recovery, state and local jurisdictions work closely with federal agencies to secure and make use of those resources. With this in mind and as requested, my testimony today describes a number of lessons and insights that we have identified from our work on past disasters that may be useful to inform the actions of federal, state, and local government as they work to meet the challenging process of recovering after Hurricanes Ike and Gustav as well as other disasters yet to come.

My statement is primarily based on two recently released reports that are part of a body of work GAO has developed regarding disaster recovery.¹ In September 2008, we identified lessons from the experiences of communities that have recovered from previous major disasters in order to help inform recovery efforts in the wake of Hurricanes Ike and Gustav as well as the 2008 Midwest floods.² This past December, we examined the implementation of the Federal Emergency Management Agency’s (FEMA) Public Assistance grant program after the 2005 Gulf Coast hurricanes³ and identified several actions that the Department of Homeland Security can take to improve the operations of the program.⁴ In commenting on a draft of that report, the department generally agreed with our recommendations.


²See GAO-08-1120. For this review, we examined recovery experiences following these six major disaster events: (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 Grand Forks/Red River flood in North Dakota and Minnesota; and (6) the 2005 Gulf Coast hurricanes.

³For the purposes of this testimony, “2005 Gulf Coast hurricanes” refers to Hurricanes Katrina and Rita and is treated collectively as a single disaster event.

We conducted our reviews 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.

Past Disasters Offer Recovery Insights for State and Local Governments

While the federal government provides significant financial assistance after major disasters, state and local governments play the lead role in disaster recovery. Experiences from past disasters can provide states and local communities with potential good practices to consider. These practices are creating a recovery plan; building state and local capacity to use federal disaster assistance programs; supporting business recovery; and combating fraud, waste, and abuse of government programs. Because each disaster is distinctive and the resources and capacities of every community differ, each jurisdiction will need to consider whether and how to apply these insights to its own specific circumstances.

Create a Clear, Implementable, and Timely Recovery Plan

A recovery plan can provide state and local governments with a valuable tool to document and communicate recovery goals, decisions, and priorities—in effect, they can provide a roadmap for the recovery process. Just as important, the very process of developing these plans provides an opportunity for recovering jurisdictions to involve the community in identifying recovery goals and priorities. In our review of recovery plans created after past disasters, we have identified certain characteristics that facilitated the recovery process.

Identify clear goals for recovery. A plan containing clear goals can provide direction and specific objectives for a recovering community to focus on and strive for. Clear goals can also help state and local governments prioritize projects, allocate resources, and establish a basis for subsequent evaluations about the recovery. After the 1995 earthquake in Kobe, Japan, jurisdictions identified specific recovery goals in their plans, such as the rebuilding of all damaged housing units in 3 years and removing all temporary housing within 5 years. These goals were critical for helping to coordinate the wide range of participants involved in recovery. Additionally, these goals allowed the government to communicate its recovery progress with the public. Each month, information on progress made toward achieving those goals was provided to the public online and to the media at press conferences. Finally, these goals provided a basis for evaluations conducted by local governments,
which enabled policymakers to measure the region’s progress toward recovery, identify needed changes to existing policies, and learn lessons for future disasters.

**Include detailed information to facilitate implementation.** Including detailed implementation information in recovery plans can help communities realize recovery goals. Implementable recovery plans specify objectives and tasks, clarify roles and responsibilities, and identify potential funding sources. Accordingly, the recovery plan created by the City of Grand Forks, North Dakota, after the 1997 Red River flood contained these elements. First, the plan outlined broad recovery goals, which were linked to a number of objectives and tasks that would help to realize those broad goals. The plan also identified a target completion date for each task so the city could better manage related activities. Second, Grand Fork’s plan assigned personnel to each task to carry out that activity. By clarifying the roles and responsibilities for those who would be involved in accomplishing specific tasks, the plan provided detailed information to facilitate implementation. Third, the Grand Forks plan identified funding sources for each recovery task. It also included a financing matrix, which presented various funding sources for each task along with target completion dates. A city evaluation found that these plan characteristics allowed the city to conceive and formulate projects in collaboration with the city council and other governmental representatives. It also helped Grand Forks meet its recovery goals as well as adhere to federal and state disaster assistance funding laws and regulations.

**Establish plans in a timely manner.** The prompt completion of recovery plans help to facilitate the ensuing recovery process by providing a clear framework early on. Creating plans in a timely manner can be a challenge after disasters, as was the case in New Orleans after the 2005 hurricanes. However, jurisdictions affected by the Kobe earthquake devised a strategy to ensure that recovery plans were finalized promptly after the 1995 earthquake. These local jurisdictions had a relatively short amount of time in which to submit proposals for the national budget that would be considered for the coming year. Facing this deadline, officials developed a two-phase planning strategy. First, they completed a plan within 2 months of the earthquake that identified broad recovery goals to provide a basis for budget requests. Second, six months after the earthquake, local Japanese officials collaborated with citizens to develop more detailed recovery plans. This two-phase planning process enabled the jurisdictions 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 Implementing
Federal Disaster Programs

Given the lead role that state and local governments play in disaster
recovery, their ability to act effectively directly affects recovery after a
major disaster. While the federal government plays a key supporting role
by providing financial assistance through a range of programs, state and
local governments may need certain capacities—such as having financial
resources and technical know-how—to effectively take advantage of that
assistance.

Enhance financial capacity. The widespread destruction caused by
major disasters can impose significant financial burdens on the state and
local governments, such as creating unbudgeted expenses while at the
same time decimating the local tax base. In addition, federal disaster
programs often require state and local governments to match a portion of
the assistance they receive. In the past, affected jurisdictions have used
loans from a variety of sources to enhance local financial capacity. For
example, after the 1997 Red River flood, the Bank of North Dakota
provided a line of credit of 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's operating expenses, and fund recovery
projects that commenced before the arrival of financial assistance.

Strengthen technical capacity. State and local governments face the
challenge of implementing the wide range of federal disaster programs.
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.
To strengthen their technical capacity to implement this program after the
2005 Gulf Coast hurricanes, FEMA and Mississippi state officials used
federal funding to obtain an online accounting system that tracked and
facilitated the sharing of operational documents. In doing so, FEMA and
the state reduced the burden on applicants of meeting Public Assistance
grant program requirements, gained immediate access to key documents
that helped officials make project approvals, and relieved the
documentation and resulting human capital responsibilities that applicants
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 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. Federal, state, and local governments have developed strategies to facilitate business recovery, including several targeted at small businesses.

**Provide technical assistance to help businesses adapt to postdisaster market conditions.** Major disasters can change communities in ways that require businesses to adapt. The ability of business owners to 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 1994 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. Specifically, a local nonprofit provided direct technical assistance to affected businesses such as counseling them on how to obtain government assistance and providing strategies for how to adapt to the changed business environment. This information was disseminated through door-to-door canvassing in affected areas to reach out to business owners and conferences to teach owners how to market their businesses given the changed demographics.

**Create strategies to minimize business relocation and the loss of customer base.** Widespread business relocations after a disaster can hinder recovery. Local governments have devised strategies to retain businesses after past disasters. For example, after the Red River flood, the City of Grand Forks used the Department of Housing and Urban Development’s Community Development Block Grant funds to provide $1.75 million in loans to businesses. A feature of this program was that it forgave 40 percent of the loan principle of businesses that were still operating in the community for 3 years. According to a local official, over 70 percent of businesses that received this loan stayed in Grand Forks for 3 years. Another local strategy taken to minimize business relocation was implemented after the 1989 Loma Prieta earthquake. The City of Santa Cruz constructed large aluminum and fabric pavilions where local businesses that suffered damage relocated. City officials stated that these pavilions helped to mitigate the impact of the earthquake on small businesses by enabling them to continue operations and thereby maintain their customer base.
A persistent challenge facing government at all levels is the risk of fraud, waste, and abuse of funds targeted for disaster assistance. The influx of financial assistance available after a major disaster provides increased opportunities for such activities. Both disaster victims and public funds are at risk. We identified two actions that state and local governments can take after major disasters to combat the issue of fraud, waste, and abuse.

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

**Create credentialing program to minimize instances of contractor fraud.** Many disaster victims hire contractors to repair or rebuild their homes using government assistance. Residents are potential targets for fraud by unscrupulous contractors. To help protect its residents from contractor fraud after the 1997 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 contractors that wanted to do business with recovering residents. State and local officials staffing the clearinghouse carried out a variety of functions, including checking that contractors had appropriate licenses and insurance and did not have criminal records. After passing these checks and completing all the required applications, contractors were issued photo identification cards that they were required to carry at all times while working within city limits. 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. In an effort to minimize instances of contractor fraud after the 2008 Midwest floods, the City of Cedar Rapids, Iowa created a similar contractor certification program modeled after Grand Forks’ program.

**Create comprehensive state framework to minimize fraud, waste, and abuse of federal programs.** The need to quickly provide assistance to victims puts assistance payments at risk to fraudulent applicants who try to obtain benefits they are not entitled to. Our prior work on FEMA’s Individuals and Households Program (IHP) payments and the Department of Homeland Security’s purchase card program showed significant instances of fraud, waste, and abuse in the wake of the 2005 hurricanes. We previously estimated improper and potentially fraudulent payments related to the IHP application process to be approximately $1 billion of the first $6 billion provided. Additionally, FEMA provided nearly $20 million in duplicate payments to individuals who registered and received assistance.
twice by using the same Social Security numbers and addresses. 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 individual to defraud the government. 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. Without the creation of such a fraud protection framework—especially the adoption of fraud prevention controls—federal programs can end up losing millions or potentially billions of dollars to fraud, waste, and abuse.

The Public Assistance grant program, administered by FEMA, is one of two key programs the federal government has used to provide federal rebuilding assistance to Gulf Coast states after the 2005 Gulf Coast hurricanes. Under this program the federal government provides funds on a project-by-project basis. We have previously reported that federal, state, and local officials reported experiencing a wide range of operational challenges, many of which were magnified because of the large number of rebuilding projects following the 2005 Gulf Coast hurricanes. Today, I would like to focus on two broad challenges we identified in that report—those associated with developing Public Assistance projects and those involving information sharing.

In our recent review of the Public Assistance grant program, we identified several challenges involving the process of developing projects that at times contributed to delays and increased costs, particularly for many large permanent work projects. These included using program flexibilities to rebuild to the postdisaster needs of grant applicants and determining the scope of projects.

**Limitations in using Public Assistance to rebuild to the postdisaster needs of grant applicants.** Localities experienced difficulties using the Public Assistance grant program to rebuild in a way

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6GAO-07-418T.
that met their postdisaster needs and conditions. This is because the program typically provides funds to restore buildings, equipment, or infrastructure back to the way they were before the disaster. For example, when a community that was in the process of making infrastructure upgrades prior to the storms wanted to rebuild according to its updated plans, it experienced challenges using the program. Prior to the 2005 Gulf Coast hurricanes, local officials in St. Bernard Parish were beginning the process of consolidating the jurisdiction’s seven separate wastewater and sewer treatment plants into a single facility in order to meet EPA compliance rules, among other things. The parish had already begun construction of the consolidated facilities and had issued a $50 million bond to fund the project. However, the storms flooded the entire sewer system and destroyed equipment in all seven treatment plants. When parish officials applied for Public Assistance funding to repair the facilities, they sought to structure the project to accomplish their previous construction goals rather than building a system that they planned to decommission. These officials reported experiencing challenges obtaining agreement from FEMA to build their project as a consolidated wastewater treatment plant instead of seven separate facilities. This challenge, along with other challenges in obtaining agreement on the scope and cost of the project, led to over 2 years of delays in starting rebuilding. During that time, heavy trucks were used to pump and haul sewage as an interim measure, resulting in a considerable cost as well as damage to the parish’s roads. According to St. Bernard Parish officials, the temporary measures have cost the federal government more than $60 million. These officials estimated that had they been able to move ahead with their original plans, it would have taken about 1½ years for the new consolidated facility to become operational. However, more than 2 years after the project was proposed, rebuilding had not yet begun.

Local governments in the Gulf Coast also needed flexibility in rebuilding to address postdisaster needs when the population of their neighborhoods changed significantly from pre-Katrina levels. Consequently, it was important for their rebuilding projects to take into account new conditions. For example, in light of postdisaster population changes, Louisiana’s Recovery School District sought flexibility in the size and location of the schools to be rebuilt. However, they experienced challenges with using the Public Assistance grant program to do this.

The program contains provisions—through the use of alternate or improved projects—that allow some changes, but this typically results in restrictions in funding.
because the program is designed to restore infrastructure back to the condition, location, and function that existed before the disaster. FEMA and school district officials ultimately were able to work together to resolve their differences by moving toward a more flexible approach to rebuilding.

**Difficulties in accurately determining scope of projects.** Federal, state, and local officials also experienced challenges with developing the scope of work of Gulf Coast recovery projects. During the process of developing the scope of Gulf Coast projects, officials had difficulty determining which damage was disaster related and therefore potentially eligible for coverage under the program. For example, in St. Bernard Parish, roughly 2 years passed before FEMA and parish field inspection teams completed identification of eligible damage to approximately 2,500 blocks of local streets. The parish had no records to document the condition of its streets prior to the 2005 Gulf Coast hurricanes, so according to state officials, FEMA conducted inspections of each street in an attempt to distinguish predisaster damage from what was caused directly as a result of the hurricanes. In contrast, nearby Jefferson Parish did not encounter similar challenges with distinguishing predisaster damage from damage directly related to the hurricanes. This is because the parish maintained a road repair-management information system (including a road-maintenance plan) prior to the disaster that enabled the parish to identify preexisting road conditions to FEMA officials, thereby helping to expedite its road-repair projects.

FEMA plans to incorporate some project development flexibilities into its regular practices. For example, FEMA’s Public Assistance Catastrophic Disaster Recovery Concept Plan, finalized in May 2008, recognizes the need for regulations to allow applicants to more easily tailor projects to meet postdisaster needs. In September 2008, FEMA officials informed us that policies to address this issue as well as a range of other initiatives related to the plan are in development and are expected to be complete by March 2009.

**Challenges with, and Lessons for, Information Sharing**

Because the Public Assistance grant program is complex and requires collaboration among federal, state, and local officials, effective sharing of project information is especially important. We identified challenges to sharing project information among intergovernmental participants during project development. Federal, state, and local officials involved in the program in Louisiana reported facing challenges in effectively sharing critical operational information about projects including documents used...
to support scope and cost estimates, such as receipts, invoices, and facility assessments. For example, some applicants in Louisiana told us of the need to repeatedly resubmit key project documents because of the lack of an effective system to share such documentation. This situation was made worse because key federal and state officials responsible for reviewing and approving documentation were not primarily located in the same place. Although FEMA typically colocates with state grantees in order to facilitate information sharing, FEMA and Louisiana state officials conducted their work primarily from different cities—approximately 80 miles away.

In Mississippi, federal, state, and local officials adopted strategies that helped to facilitate the sharing of project information. For example, following the disaster, FEMA’s Mississippi Transitional Recovery Office and the state grantee were located in the same office complex in Biloxi, Mississippi, and officials from these agencies were also positioned together throughout the state. They told us that this colocation had multiple benefits for information sharing and exchange, including the timely sharing of critical documents and facilitation of daily meetings on project-development issues. Further, as previously mentioned, FEMA and Mississippi state officials used Public Assistance funding to secure an online accounting system that made operational documents associated with projects readily available to all parties. As a result, FEMA and the state had immediate access to key documents that helped them to make project approval decisions and relieve the documentation and resulting human capital burdens that applicants faced during project development.

To help the Department of Homeland Security improve the operation of the Public Assistance grant program and build on some of the actions it has taken, our December 2008 report contained a number of recommendations, including that FEMA improve collaboration and information sharing within the Public Assistance process by identifying and disseminating practices that facilitate more effective communication among federal, state, and local entities communicating and tracking project information.8 In commenting on a draft of our report, the department generally agreed with our recommendations and noted that FEMA is making efforts to improve collaboration and information sharing within the Public Assistance process.

8GAO-09-129.
The insights and lessons gained from the recovery experiences of past major disasters provide a potentially valuable source to all levels of government as they seek to meet the many challenges and complexities of recovering from a major disaster. While there is no one right way for state and local jurisdictions to manage recovery, the practices I have presented today provide a basic set of considerations and approaches for communities recovering from Hurricanes Ike and Gustav as well as disasters yet to come. For its part, the federal government has been an active partner in disaster recovery, spending tens of billions of dollars on efforts to recover from disasters over the last several years. Our work on one key federal recovery program—FEMA’s Public Assistance grant program—has identified several specific actions that can be taken to address the operational challenges that the program faced in the wake of the 2005 hurricanes. Opportunities exist for the federal government to take steps in the future to continue to refine this program to better address these challenges that could be faced again by Gulf Coast states recovering from Hurricanes Ike and Gustav, and in advance of future disasters.

Mr. Chairman and members of the subcommittee, this concludes my statement. I would be happy to respond to any questions you may have at this time.

For information about this testimony, please contact Stanley J. Czerwinski, Director, Strategic Issues, 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 statement. Major contributors to this testimony include Peter Del Toro, Assistant Director; Shirley Hwang; and Latesha Love. Susan Etzel, Christopher Harm, and Michael O’Neill also made key contributions.
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