

2010



A DECADE OF DISASTERS



A Business Civic Leadership Center Report
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- Communicating the U.S. private sector's unique and valuable contributions
- Cultivating strategies and practices that achieve positive results
- Coordinating public-private partnerships and coalitions



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TABLE OF CONTENTS

Introduction

- 2 A Decade of Disasters by Gerald McSwiggan, BCLC
- 4 Disaster Relief and Recovery: We've Learned Our Lessons Well by Mary Wong, Office Depot Foundation

Part 1 : What Has Happened

- 8 A Tale of Two Disasters by Ellis M. Stanley, Sr., Dewberry

Haiti

- 10 From Relief to Preparedness to Recovery by Shane O'Connor, FedEx
- 12 Improving Haiti's Communications Technology Recovery by Marie Thérèse Royce, Alcatel Lucent Technologies

Chile

- 14 Earthquake Aftermath Lessons by Charles Kimber, AmCham Chile

Tennessee

- 16 Tennessee's Public-Private Partnerships: Working through the Thousand-Year Flood by Jeff Crenshaw, Continuum Recovery
- 18 Maritz's Contribution to Tennessee's Disaster Response and Recovery by Debbie Schirmer, Maritz

Katrina and Rita

- 20 New Orleans: A Bootstrap Recovery by Kellie Bentz, Bayou District Foundation

Part 2 : What We Have Learned

- 24 Employee Involvement in Preparing for Disasters by Jan Tratnik, Grainger
- 26 Partnering for Resilience by Butch Truesdale, Palm Beach County Partnership
- 28 The Need for Post-Disaster Redevelopment Planning by Susana Mueller, Teco Energy
- 30 Disaster Logistics and the Private Sector: Issues and Opportunities by Jock Menzies, the Terminal Corporation

Part 3 : Where We Are Going

- 34 Disaster Recovery as an Academic Discipline by Gavin Smith, University of North Carolina
- 38 Ten Years of Stone Soup: Creating Disaster-Resistant, Sustainable Communities by Ann Patton, Tulsa Partners and Project Impact
- 40 Disasters as Catalysts for Change by Sidney Coffee, America's Wetland Foundation
- 42 Disaster Resiliency on the West Coast by Ines Pearce, BCLC
- 44 Creating the Perfect Storm: Civic Institutions and Their Role in Natural Disasters by Michael Gallis, Michael Gallis & Associates

Conclusion

- 48 The Road Ahead: How the Past Decade of Disaster Relief Efforts Can Prepare Us for What's Next by Ken Sternad, UPS Foundation

A Decade of Disasters

By Gerald McSwiggan, Senior Manager,
Disaster Assistance and Recovery Program, BCLC



The first decade of the new century has been, among other things, a decade of disasters. The following list of major disasters around the world shows the prodigious number of disasters that have happened in those ten years:

2001: 7.6 magnitude earthquake in El Salvador, 7.7 magnitude earthquake in India, 6.8 magnitude earthquake in the state of Washington, 9/11 terrorist attacks

2002: Volcano eruption in the Democratic Republic of Congo

2003: 7.6 magnitude earthquake in Colima, Mexico; 6.4 magnitude earthquake in China; SARS outbreak in Asia; major flooding and landslides in Sri Lanka; 6.8 magnitude earthquake in Algeria; severe flooding in China; Hurricane Isabel; 8.3 magnitude earthquake in Japan; southern California wildfires

2004: Madrid train bombing; major monsoon flooding in India, Nepal, and Bangladesh; Hurricanes Charley, Frances, Ivan, and Jeanne; 6.6 magnitude earthquake in Japan; 9.0 magnitude earthquake in the Indian Ocean and resulting tsunami

2005: 8.7 magnitude earthquake in Indonesia; Hurricanes Dennis, Katrina, and Rita; 7.6 magnitude earthquake in Pakistan; Hurricane Wilma

2006: 6.3 and 7.7 magnitude earthquakes in Indonesia

2007: Southern California wildfires; Hurricane Dean; 8.0 magnitude earthquake in Peru; F-5 tornado in Greensburg, Kansas; Cyclone Sidr in Bangladesh

2008: Hurricanes Ike and Gustav; flooding in Cedar Rapids, Iowa; 8.0 magnitude earthquake in China; Cyclone Nargis in Myanmar

2009: Tsunami in Samoa; 7.6 magnitude earthquake in Indonesia

2010: 7.0 magnitude earthquake in Haiti; 8.8 magnitude earthquake off the coast of Chile; Gulf oil spill; severe flooding in Pakistan; flooding in Nashville, Tennessee

This is not meant to be an exhaustive list, but it should give you an idea of the number of disasters that happened throughout the world in the past decade. Most of these disasters caused significant loss of life and all of them entailed for massive relief, rebuilding, and recovery costs.

BCLC's *2010 Disaster Report: A Decade of Disasters* is a compilation of lessons learned from disasters over the past ten years and a look ahead at the future of disaster management over the next decade. Like previous BCLC disaster reports, it is designed to catalog and share best practices so that they are not lost. One problem that we face when dealing with disasters is that we are too often trying to reinvent the wheel instead of learning from those who have been through it before. It is possible to have a catastrophic event without having a disaster, but you need to apply previous learning so that the same mistakes are not made over and over again.



Over many years of dealing with disasters, we have learned a number of important lessons:

- It is far cheaper to mitigate and prepare than not to be ready when a disaster strikes.
- Businesses have an important role to play in helping communities after disasters, but the right connections with government and nonprofits need to be made before disaster hits. Disasters are not the time to hand out business cards.
- Community recovery has been a traditionally underappreciated aspect of the disaster response cycle. Over the years, this has improved, but there is still a long way to go.
- Individual preparedness is important, but resiliency of the entire community is even better.
- We need to better utilize the natural defenses (like barrier islands and wetlands) that our environment has provided.
- Our economy is so interconnected that a disaster in one region can have major secondary impacts on people throughout the country or region.
- Disaster recovery is complicated. While there is no formulaic approach to success, setting and meeting recovery goals is important but rarely done.

- Recovery is not returning to the status quo ante, but establishing a new, better reality.
- We are good at evacuating people from disaster areas but bad at bringing them back.
- Disasters don't fall neatly within political jurisdictions, so it is important that we work together to deal with the adverse affects.
- Just because news cameras leave does not mean that a community has recovered.
- Companies can donate money and in-kind products, but they should not overlook their core competencies when thinking about ways to help.

These are a few lessons learned from previous BCLC disaster reports. This report will reinforce many of these lessons, but it will also highlight topics that the authors believe will mark the future of disaster management. These are things like whole community resiliency, small business continuity, disaster recovery as an academic discipline, environmental stewardship, and a larger role for civic institutions in disasters. This report will discuss these topics and more so that we learn from our past successes and failures and start managing and stop fearing the disaster threats we face every day.

Disaster Relief and Recovery: We've Learned Our Lessons Well

By Mary Wong, President, Office Depot Foundation



When a tornado, a hurricane, or a major flood devastated a community ten years ago, disaster relief efforts typically did not begin until the dust had settled—or the waters had started to recede.

If we've learned anything in the past decade, it's the lesson that if you wait until after a disaster to swing into action, it might already be too late. This is true not only for disaster relief, but also for disaster recovery.

Fortunately, thanks to the efforts of the Business Civic Leadership Center's Disaster Assistance and Recovery Working Group and many others in the field, I believe that most of us in the business community have greatly expanded our view of disaster relief and recovery. We now think in terms of a continuum, which begins with disaster preparedness, moves forward swiftly with rational and logical actions when disasters strike, and then continues long into the future through the process of rebuilding. We have broadened our conversations to include not only disaster preparedness, but also "recovery preparedness."

Along the way, it has become more and more evident that a community's overall recovery cannot take place without its economic recovery.

This is why the Office Depot Foundation has partnered with BCLC to support and carry out economic assessment studies in several stricken communities, including San Diego, Louisiana, and Cedar Rapids, during the past several years. These initiatives led to measurable results where it counts—on the ground.

It's also why we became the primary sponsor of BCLC's National Disaster Help Desk for Business—a 24-hour toll-free hotline (1-888-MY-BIZ-HELP) that businesses can call for help in navigating the often uncharted waters after a disaster hits. The Help Desk quickly developed a flip side, as businesses began dialing in to see what they could do to help others.

The phrase "business continuity" has entered our vocabulary within the past decade; often as a companion to "disaster preparedness." At the risk of preaching to the choir, I'd like to cite several clear and compelling reasons why businesses—and in particular small businesses—should be prepared for disasters and the process that follows them.





Business owners want—and need—to protect their livelihood. If you can't work and your employees can't work, serious financial difficulties can't be far behind. Similarly, your ability to keep your doors open is also critical to your employees' ability to provide for themselves and their families.

Then there are the customers who rely on your businesses to be there for them, whether they are down the block or halfway around the world, and no matter what kind of service or product you provide. And so, it benefits everyone involved to make sure that a business can recover as quickly as possible.

I can easily replace the words “small business” with “nonprofit organization” in these observations, and the statements are just as compelling. Given the critically important roles that nonprofits play in maintaining the “safety

net” for people in need in our communities, they too must understand the importance of preparation and where it fits within the disaster relief and recovery continuum.

Another key development of the past ten years is that there are many more resources available to small businesses and nonprofit organizations today. The BCLC website is one of the best places you can go to find a wealth of relevant information, including how to create a disaster preparedness and business continuity plan.

George Santayana famously said that “Those who do not remember the past are condemned to repeat it.” In the realm of disaster relief and recovery, I am optimistic that we've learned our lessons well—and that our thinking will continue to evolve in positive and constructive ways in the future.



PART 1: WHAT HAS HAPPENED



A Tale of Two Disasters

By Ellis M. Stanley, Sr., VP, Dewberry



Resiliency in one disaster and despair in the other is probably what the world saw from afar as they witnessed two catastrophic earthquakes this year. Why did this appear to be the case and why did the greater magnitude earthquake produce much less damage to structures and people alike? Without dealing with the science of the earthquake, i.e., epicenters, soils, types, etc., we see that there were some inherent factors that led to this phenomenon. We'll discuss them later.

I recently had the distinct opportunity to visit two of the largest earthquake disasters to occur this year. The 2010 Haiti earthquake was a catastrophic 7.0 magnitude earthquake that occurred at 4:53 p.m. local time on Tuesday, January 12, 2010. The Haitian government reported that an estimated 230,000 people had died, 300,000 had been injured, and 1,000,000 made homeless. They also estimated that 250,000 residences and 30,000 commercial buildings had collapsed or were severely damaged.

The 2010 Chilean earthquake occurred off the coast of the Maule Region of Chile on February 27, 2010, at 3:34 a.m. local time, rating a magnitude of 8.8 and lasting 90 seconds. It was strongly felt in six Chilean regions that together are home to 80 percent of the country's population. This earthquake triggered a tsunami which devastated several coastal towns in south-central Chile. Seismologists estimate that the earthquake was so powerful that it may have shortened the length of the day by 1.26 microseconds and moved the Earth's figure axis by 8 cm.

On July 12–15, 2010, a small delegation from the U.S. National Academies Disasters Roundtable (DR) visited Port-au-Prince, Haiti, to gather information to determine whether the U.S. National Academies could contribute to the

recovery and reconstruction activities after the earthquake of January 12, 2010.

The objective of the visit was for the delegation to listen to as broad of a range of people as possible to increase understanding of what the in-country needs may be for Haiti's recovery from the January earthquake. We were listening to the in-country experts to gain a sense of whether there was a role for the U.S. National Academies to play in the recovery process.

On July 18–28 a larger multidisciplinary delegation sponsored by the American Red Cross visited Chile to take advantage of this rare opportunity to observe the response and initial recovery phases of a high-magnitude earthquake and tsunami in an industrialized urban area which offers a diverse and densely populated setting; modern communication, transportation and infrastructure systems; and building codes and other relevant mitigation strategies similar to those employed in southern California.

Both of these disasters occurred during election season in their respective countries. Haiti's election was subsequently delayed and Chile's had already taken place but transfer of government wasn't scheduled until weeks later. This is significant only because of the completely different actions that resulted. On the six-month anniversary of the Haiti earthquake very little had taken place. However, with the transfer of government in Chile to a business-oriented president much has happened to change their programs and move forward. The new administration indicated they had little confidence in its capability or capacity of its ONEMI (our FEMA) organization and moved quickly to establish an Emergency Committee to reinvent Chile's disaster management program.



For the first few days immediately following Chile's earthquake and tsunami the people took care of themselves with neighbor helping neighbor and without the need to get tsunami warnings because they had developed a "culture of resilience" and reflexively evacuated to higher ground following the earthquake. As they described it, "If the earthquake knocks you to the ground, move to higher ground." They also have compulsory military service in Chile, which this observer believes enhances to the culture of preparedness.

Haiti on the other hand did not have a significant history of earthquakes during the current generation nor did it have enforced building codes, and much of the government response infrastructure was lost during the earthquake. The recovery efforts appear to be stymied by a lack of capacity



to design and execute a recovery program. There are many expectations being placed on the Interim Haiti Recovery Commission as to what its role is or will become as the recovery efforts take shape and get under way.

Both governments appear to be taking a lead from the private sector by identifying areas of opportunity and benchmarking their performance against standards. Chile is moving forward aggressively with new housing initiatives; and Haiti is positioning itself to take advantage of outside resources to help manage its recovery and reconstruction efforts.

Opportunities abound in both scenarios that have global ramifications for emergency management in regard to short- and long-term recovery.

From Relief to Preparedness to Recovery

By Shane O'Connor, Program Advisor, FedEx Global Citizenship



The past ten years have seen some awful disasters. Now the simple combination of two numbers or two common words conjures up horrific pictures of human suffering—9/11, Asian Tsunami, Hurricane Katrina, Chengdu Earthquake, Haiti Earthquake.

At FedEx, we focus our philanthropy on areas where we may apply our corporate competencies to benefit local communities. In view of our global transportation network, disaster relief is one of our core areas. Ten years ago we were helping relief organizations with their relief initiatives immediately following disasters. Three years ago we added preparedness work and, most recently, we've begun working in the recovery area.

Relief

Our ability to quickly move high-priority items around the world has been a great asset to many relief agencies. By providing nongovernmental organizations (NGOs) with complimentary access to our network we greatly expand their capacity to provide relief. In the aftermath of 9/11, the Tsunami, and Katrina we provided complimentary transportation for the delivery of relief supplies and equipment, medicines, water purification units, and other critically needed products to the impacted regions. Following the earthquake in Chengdu, China, in support of Heart to Heart International, we provided the first donated private airlift of critically needed relief supplies into the quake-stricken region.

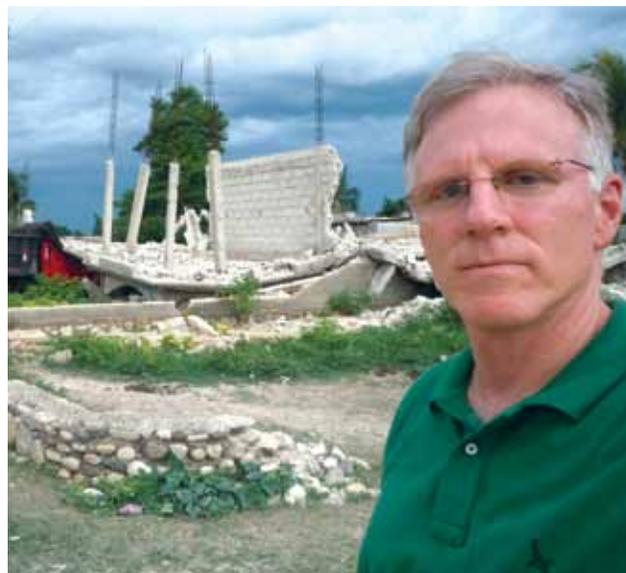
Preparedness

In working with the experts in the relief area, we learned that one dollar invested in preparedness saves seven dollars in response.¹ In 1997, we expanded our disaster relief focus

area to include disaster preparedness. That year we funded an American Red Cross study examining the preparedness level of small businesses in the U.S. (an important market segment for FedEx). The study showed that only 12 percent are reasonably prepared to react to a disaster.² In response to these results, we created with the Red Cross a disaster preparedness checklist for small businesses and made it available as a free download at our small business websites in both English and Spanish³.

Recovery

Last year we began looking at the long-term recovery area; we soon found there is a need for greater transparency around ongoing recovery efforts following large-scale disasters. Greater transparency will address questions including: Which NGOs are doing what? Where and how are they doing it? What is their capacity? What are their needs? How effective are they? Are efforts being coordinated?





www.haitiaidmap.org



Corporations with an interest in assisting with long-term recovery need this information to make informed decisions about where to apply their dollars and in-kind resources—including products, services, and volunteers.

Through our association with BCLC and the Disaster Assistance and Recovery Working Group, we began an initiative with BCLC and InterAction to help provide answers to the questions above. InterAction is the largest alliance of U.S.-based international NGOs focused on the world's poor and most vulnerable people. BCLC convened a conversation with InterAction and FedEx around the idea of a mapping initiative that would address this issue of transparency.

A recent large-scale disaster was the earthquake in Haiti. InterAction has begun to develop a Web-based mapping platform that will help address the recovery effort there. The

platform will allow users to upload data and create maps that will show who is doing what, where, and how. This information will help NGOs, governmental agencies, and the private sector determine where best to direct their resources. Resulting transparency will allow for more flexible coordination among all groups addressing the recovery effort. The resulting platform will serve as a prototype to help with future recovery efforts wherever they may be under way around the world.

Sponsorship of this mapping initiative has rounded out the FedEx "portfolio" of disaster response work to include relief, preparedness, *and* recovery. Hopefully, the next decade will see fewer disasters than the last. However, if large-scale disasters do occur, we hope the mapping initiative will mitigate their impact by helping with recovery efforts.

¹ http://www.emd.wa.gov/preparedness/business/prep_BusinessSafety.shtml ^{2 2 2}

² http://www.businesswire.com/portal/site/home/permalink/?ndmViewId=news_view&newsId=20090914005254&newsLang=en

³ <http://www.fedex.com/us/smallbusiness/>
<http://offer.van.fedex.com/m/p/idx/msc/es/index.asp>

Improving Haiti's Communications Technology Recovery

By Marie Thérèse Royce, Senior Director International Affairs, Americas Public Affairs, Alcatel Lucent Technologies



January 12 is memorable. I gazed at my BlackBerry between meetings in Puerto Rico and was startled by the CNN “breaking news alert.” It was hard to believe that a 7.0 magnitude earthquake had just devastated Haiti, only 400 miles away. The reports indicated that the earthquake and aftershocks impacted three million people, approximately one third of the overall population. The government of Haiti reported that there had been an estimated 112,000 deaths and 194,000 injured. President Rene Preval described conditions in his country as “unimaginable,” and appealed for international assistance.

I didn't know at that time that my company and its sector colleagues would be providing part of that international assistance. Alcatel-Lucent's employees in the region recognized the need for immediate support, successfully restoring communications within days for our wireless



customer Digicel. In coordination with new management at our 20-year customer Natcom, formerly known as the government-owned Teleco, we assisted with reliability and resiliency recommendations. We completed our network assessment and restored full fixed-line service including international links with the Dominican Republic. As a member of the U.S. Chamber corporate delegation that visited Haiti, I too was able to provide an assessment of the country's situation. I was moved by my time spent in the tent cities and seeing the impact on the Haitians firsthand. In a public meeting at the U.S. Department of State I shared my experience and Alcatel-Lucent's contribution regarding our Haitian relief and reconstruction efforts.

It is safe to say that the destruction of Haiti's infrastructure and other extensive damage caused by the earthquake has set back Haiti's development significantly. But thanks to the U.S. Chamber's Business Civic Leadership Center daily blogs and weekly calls we have learned about government and corporate efforts to meet the immediate infrastructure needs and provide humanitarian relief operations. As a company, we executed our disaster relief plan and through the Alcatel-Lucent Foundation we instituted our Haiti employee matching program, raising nearly \$300,000. This relief aid was given to Doctors Without Borders, the International Red Cross, Hope for Haiti, UNICEF, and the Resource Foundation.

At the U.S. Chamber BCLC Haiti Jobs Summit the country's near-term and long-term development plans were shared. I listened with great interest to the ambassadors and companies. It became clear that decentralization of the population is a priority. The goal can be achieved through the implementation of high-speed broadband for e-education, e-health, public safety, tourism, and transportation initiatives



for additional cities outside of the capital. The World Bank's 2009 Information and Communications for Development report provides compelling documentation regarding the relationship between broadband penetration and increased GDP growth. Broadband supports decentralization and job creation. We know that Haiti had the lowest broadband penetration and Internet usage in the Caribbean according to the United Nations International Telecommunication Union (ITU) figures prior to the earthquake.

As the months have passed, international callers and Internet users continue to be unable to use Natcom's submarine cable network due to extensive damage. We are advocating that the one submarine cable link be restored and an additional submarine cable link into Haiti be created as quickly as possible, establishing two cable links. The two submarine

cables—together—would provide diversity and price competition similar to other countries in the region. The cost saving benefits would spread to companies and people.

As a company, Alcatel-Lucent is committed to improving broadband access for Haiti as well as many other countries. Access to voice and broadband services is essential for social and economic development, yet billions of people are currently underserved. Through our Digital Bridge Initiative we seek to offer broadband solutions that are innovative and economically viable. We look forward to being a partner with Haiti in the years to come in this endeavor and I remain personally committed to ensure that Haiti truly becomes a better place to live.

Earthquake Aftermath Lessons

By Charles Kimber, President Sustainability and CSR Committee, AmCham Chile



There are no words to describe the effects of the earthquake and subsequent tsunami that hit Chile's central zone on the night of February 27 of this year. It was the fifth greatest earthquake recorded in modern history worldwide and the second in intensity and violence (800 times more powerful than the one that hit Haiti). The seismic movement, which reached 8.8 points in the Richter scale, seriously damaged the area inhabited by some 13 million Chileans (75 percent of the country's entire population). Physical damages are estimated to amount to some \$30 billion. But by far the worst of all: thousands of injured and more than 500 fatalities, most of which inhabited coastal areas (fishermen's wharfs) that were wiped out by the follow-up tsunami.

Images available on the Internet speak for themselves about the magnitude of the disaster.

The earthquake occurred just 12 days before the swearing-in of the new government. This meant a huge drainage for both teams; the outgoing one, which in its last days in power had to turn fully the emergency tasks at hand, and the incoming one, which had to completely redesign its government program, focusing on the new needs triggered by the catastrophe.

The new government team (a center-right political coalition which had remained the Opposition for the last 20 years) set up two work areas: an Emergency Committee and a Reconstruction Committee. It was well understood that from the very beginning the impacted area would call for massive reconstruction efforts, in addition to merely temporary emergency measures, which included not only temporary housing and hospital needs, but also, functioning schools. In addition, the earthquake totally destroyed a naval base.

From a business perspective, this earthquake destroyed or damaged a large number of forestry, shipyard, fishing, and agricultural companies. It also affected commercial activities nationwide as a consequence of severe damage to core urban areas.

One of the most noteworthy facts to be highlighted within this perspective is the key role played by some of the public-private alliances that were organized. From the outset, the situation was propitious for the tasks at hand to be tackled in this cooperative manner. One of the first such efforts was a massive nationwide telethon, where some of the largest companies made contributions, in addition to private-citizen contributions. Although this event in and of itself was not something new, it became an important landmark effort that sealed a novel sort of public-private sector alliance





It is worth noting that private efforts have significantly turned in favor of reconstruction—not merely recovery—efforts focused on how to take advantage of the circumstance as an opportunity to develop and build new concepts and modern technology.

and generated commitments by both the outgoing and the incoming government authorities to work jointly in addressing this gargantuan task. Voluntary help was organized and coordinated with the government and emergency housing construction efforts were performed by the NGO *Un Techo para Chile*; an entity that uses private sector contributions to build basic emergency shelters.

Business persons also used their international network contacts in order to seek not only donations, but also for personnel to come to Chile and participate in the reconstruction effort. One excellent example of this was the immediate reconstruction of schools, based on the experience of mining industry camp suppliers. Something similar has occurred with work element donations that have permitted, for example, some of the region's artisan fishermen to recover not only their source of income (with the donation of boats and other fishing gear), but also their way of life, inherited through generations (via the recovery of the fishermen's cove structures). AmCham's own experience is a good reflection of this: not only did we receive help via the U.S. Chamber of Commerce, we have also established specific lines of help, jointly with PADF, United Way, COANIQUEM, and Fundación Mar de Esperanza.

Along with that, it is worth noting that private efforts have significantly turned in favor of reconstruction—not merely recovery—efforts focused on how to take advantage of the circumstance as an opportunity to develop and build new concepts and modern technology. In order to achieve this,



the well-earned prestige of foreign and Chilean private companies—particularly in the United States—has to establish contact with and add participants from many companies specializing in urban design, architecture, and city planning. These efforts are being coordinated with the government's reconstruction team.

Despite the magnitude of the destruction and on the basis of the foregoing, the country managed to erect in three months 40,000 temporary houses and start schooling for more than 2 million students who had been left out of school because of shattered buildings and classrooms. It's a pretty good start!

Tennessee's Public-Private Partnerships: Working through the Thousand-year Flood

By Jeff Crenshaw, President, Continuum Recovery



May 2010 will forever be remembered for breaking flood records in Tennessee. Powerful storms dumped rainfall amounts ranging from 13" to 20" on the state over a two-day period in a deluge greater than any in a thousand years. The result was massive flooding and 24 deaths.

I was asked on day 2 to report to the State EOC as the private sector coordinator for the State's emergency operations. I was quickly overwhelmed with recovery requests in the first few days and it became evident there were two main issues to be dealt with: How could the private sector help government respond and recover and how could government help the private sector recover?

As with any event in the early stages, response was the main objective. The Tennessee Emergency Management Agency (TEMA) reported that 3,000 state and 20,000 local jurisdiction personnel responded to the event; 1,000 mutual aid responders from unaffected jurisdictions assisted; fifteen federal agencies responded with personnel and equipment; and more than 50,000 volunteers participated in the response.

Previous experience, however, had shown it would not be easy, even in an event of this magnitude, to engage the private sector. Previous experience had also shown collaboration that included the private sector would be key to success in disaster response and recovery. TEMA Director General Bassham had started down this path more than three years earlier, taking a step in the right direction by making a conscious decision to have the private sector represented in the state's EOC. This foresight and TEMA's major outreach initiative to the private sector with assistance from FEMA resulted in hundreds of private



sector businesses, chambers of commerce, and nonprofits offering assistance to help get Tennessee back on its feet, with some of the first offers coming from BCLC's National Disaster Help Desk. Evidence of success was also noted in a TEMA after-action report titled *Strengths*: "There was good coordination between TEMA and its partners. It was beneficial to have a working relationship prior to the incident with the Emergency Service Coordinators, the American Red Cross, and private entities such as FedEx and Walmart."

The public and private sectors are both aware of the high percentage of businesses that never recover from a catastrophic event and that minimizing business interruption time is critical in ensuring a business does



not become part of this percentage. Several businesses such as FedEx, Walmart, and Dynamic Industries worked directly with critical services to help with this issue. In one instance, FedEx and Dynamic Industries worked with TEMA and its suppliers to cut weeks off the recovery time of a major water treatment plant. It is encouraging to see FEMA Administrator Craig Fugate spotlighting the value of strong partnerships between government and the private sector, and more and more state EMAs are formalizing these relationships.

The following statement is a testament to the success of the public-private sector partnership's response to the flooding in Tennessee:

"We have an incredible amount of support from the private sector community here," said Federal Coordinating Officer Garcia Szczech. "The collaboration we have in Tennessee between the public and private sector can be used as a model in other places in future disasters."

The Tennessee Thousand-Year Flood clearly demonstrated the need for a more defined role for public and private partnerships during disaster response and recovery, and we must formalize and integrate the private sector into every stage of disaster planning, response, and recovery. And while we're no longer treading water, we still have a lot of work ahead.



Maritz's Contribution to Tennessee's Disaster Response and Recovery

By Debbie Schirmer, Community Affairs Manager, Maritz



On May 7, 2010, Maritz corporate headquarters in St. Louis received an urgent e-mail from Terry Erwin, Maritz Vice President, Auto Sales, located in the Maritz Franklin, Tenn., office, exclaiming that “Nashville just got crushed with the flood. If Maritz were able to do anything—no matter how small—it would really help the American Red Cross in Middle Tennessee get aid to the people who so desperately need it. Things are far worse than the national media is reporting.”

Maritz corporate headquarters quickly answered the call and forwarded a contribution to the American Red Cross Nashville Area Chapter. The Maritz gift, along with many others, helped the Red Cross care for thousands of Tennessee residents displaced by the floods.

“Approximately 2,000 Red Cross volunteers are working across Tennessee to provide shelter, food, and emergency assistance that is critical to beginning their recovery,” said Joel Sullivan, Chief Executive Office, Nashville Area Chapter, American Red Cross. “Mobile feeding vehicles are canvassing neighborhoods delivering clean-up and hygiene kits as well as delivering warm meals and water. Red Cross case workers are going door-to-door meeting with clients and providing a shoulder to lean on. Thirty-six Red Cross shelters have been opened and more than 100,000 meals and snacks have been served and distributed, thanks to the generous support and donations of local partners, businesses, and individuals like you.”

“Maritz and its people have a long history of supporting the American Red Cross,” said Beth Rusert, Vice President,





The tireless effort to clean up and rebuild is well under way, and I know the generosity shown by companies like ours will directly benefit those people who need help the most.



Communications and Public Affairs, “so when Terry approached us for financial assistance for the American Red Cross in Nashville, there was no question about its credibility as a sound and reputable agency that could act quickly to assess and react to the disaster.”

“On behalf of all of us in the Maritz Nashville office, I’d like to extend our thanks and gratitude for the generous donation Maritz is making to help the relief effort in our city,” responded Terry Erwin. “I can tell you that having seen firsthand the widespread devastation, it is really a tragic scene. Not only are entire neighborhoods completely

wiped out—like the one two streets away from mine—but many lives were lost as well. The tireless effort to clean up and rebuild is well under way, and I know the generosity shown by companies like ours will directly benefit those people who need help the most.”

Maritz has financially assisted the American Red Cross in a variety of ways over the years, including the 9/11 attacks; however, Maritz’s primary association with the American Red Cross is through its relationship with the St. Louis Area Chapter, from supporting capital campaigns to more recently with a greater strategic focus on disaster preparedness education through the launch of St. Louis Club Red. Club Red is a Red Cross organization targeting and incorporating young professionals ages 21 to 35 in all aspects of the American Red Cross. In addition to providing financial assistance, Maritz has also applied its skills sets by partnering with the St. Louis Area Chapter in conducting a recent employee engagement study.

Maritz is a member of the American Red Cross Ready Rating program, a first-of-its-kind membership program created to help businesses, organizations, and schools become better prepared for emergencies.

As a member of the program, Maritz has partnered with the Red Cross and committed to improving its level of emergency preparedness.

New Orleans: A Bootstrap Recovery

By Kellie Bentz, Director of Development, Bayou District Foundation



“Bootstraps” describes how the New Orleans community has lifted and rebuilt itself over the past five years. While federal money has flowed into New Orleans in post-Katrina disaster relief and resurgence, without the energy and initiative of private citizens, all the money in the world wouldn’t have made a difference. Three stories make the point: housing recovery, education reform, and criminal justice improvements.

First, my story. I arrived in New Orleans three months after Katrina, signing a six-week contract with HandsOn Network to start a disaster response project mobilizing thousands of volunteers, including many corporate citizens. After two and a half years, HandsOn New Orleans was localized as an independent, nonprofit organization. As Founding Executive Director and Vice President of Volunteer Organizations Active in Disaster, I was involved in many recovery and revitalization initiatives. What stands out the most in my mind is how the private and nonprofit sectors stepped up to lead the efforts.

Bootstrap A: Housing Recovery

In June 2009, I joined the Bayou District Foundation, a nonprofit group formed shortly after Katrina to build replacement mixed-income housing at the site of a former housing project. This volunteer-managed nonprofit holds the reins to a \$400+ million neighborhood transformation project that includes not just housing, but also new early education and elementary schools, restoration of public golf courses in historic City Park, and more. A real estate developer, a banker, and a restaurateur oversee the project’s daily progress. They have corralled partners from around the country in support of this project, and like them, other business people have taken on the job of partnering

with local and federal agencies to rebuild former public housing sites into holistic mixed-income communities.

Bootstrap B: Education Reform

The Bayou District Foundation’s aggressive plans for quality early education and elementary education in its revitalized neighborhood in Gentilly reflect the larger commitment in the community to turn public education into a community asset from its historic role as a liability. When school district officials decided not to reopen most schools in the storm’s aftermath, education reform and charter school advocates from across the community seized the moment. New Orleans’s schools had consistently ranked at the bottom of urban school systems nationally, and the state had taken control of all but a handful of the district’s schools.





With strong national support, including major commitments from Teach for America and other organizations, New Orleans has become a national model for district-wide reform. Highly accountable charter schools now educate over 60 percent of New Orleans school children, the highest in the nation, and standardized testing outcomes have steadily improved. The resurgent public school system has attracted citywide support, and has been an unequivocal bright spot in New Orleans's recovery.

Bootstrap C: Criminal Justice Improvements

Frustrated by the slow pace of police department infrastructure and manpower recovery on the one hand, and a rapidly rising increase in crime on the other, a new citizens volunteer group, the New Orleans Crime Coalition, was organized in 2006 to take the lead in the overall criminal justice recovery and reform movement. Comprised of business leaders mostly new to the challenges of the criminal justice system, as well as members representing existing crime-fighting nonprofits like the New Orleans Police and Justice Foundation and the Metropolitan Crime Commission, the new coalition evolved with a determined agenda. It lobbied Washington for special emergency funding for the police department and District Attorney's

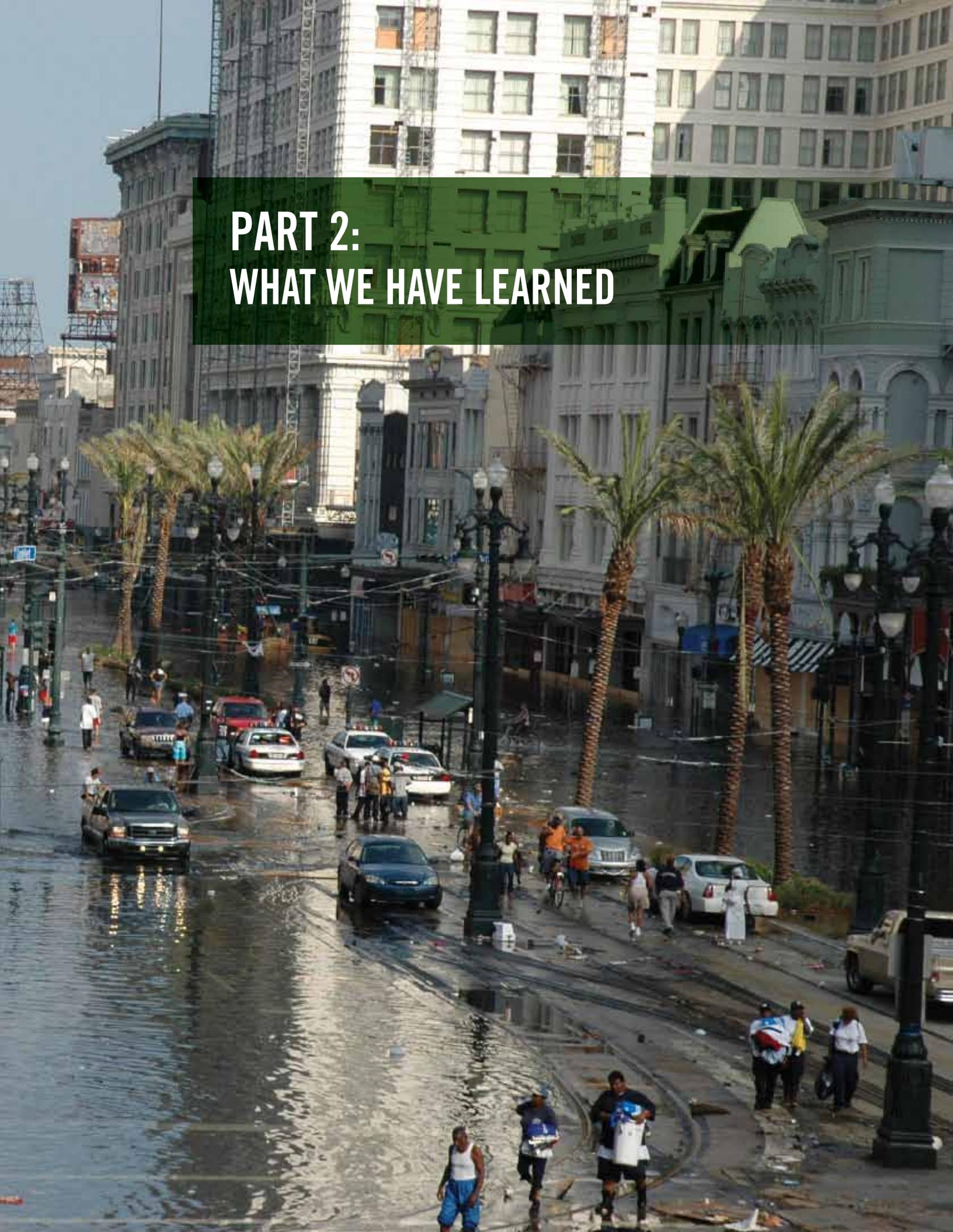


Office. It funded research on best practices for community policing and public perceptions of criminal justice leaders. It helped manage an imperative leadership change in the district attorney's office. In short, the coalition brought together dozens of people and organizations all unified by a common mission.

The private sector, in partnership with nonprofit organizations, has made the biggest difference.

The resurgent public school system has attracted citywide support, and has been an unequivocal bright spot in New Orleans's recovery.



A photograph of a flooded city street, likely in New Orleans, showing people and cars wading through the water. The street is lined with palm trees and historic buildings. A semi-transparent green box with white text is overlaid on the upper portion of the image.

PART 2: WHAT WE HAVE LEARNED

Employee Involvement in Preparing for Disasters

By Jan Tratnik, Senior Director of Corporate Communications and Public Affairs, Grainger



Strong relationships and the right resources are critical to building effective disaster response. Five years ago the unprecedented events of Hurricane Katrina brought to light not only the challenges communities face in times of disaster, but also the opportunity business leaders have to help build a network of trained volunteers before disasters happen.

During Katrina, the challenge became evident when employees asked how they might volunteer their time and talent and found no easy avenues to do so. They simply were not trained to respond to disaster. The public and private sectors have learned more about the dynamics of large-scale disasters and how to work collaboratively to channel the right products and people resources in response.

In 2001, W.W. Grainger, Inc., signed up with the American Red Cross of Chicago to participate in a new program; “Ready When the Time Comes” aimed to recruit and train volunteers from local businesses in advance of disasters. The program was launched with the American Red Cross of Chicago, training volunteers from Grainger and other Chicago companies. Shortly thereafter, Grainger worked with local Red Cross chapters to pilot the program in Florida and Colorado.

The American Red Cross Ready When the Time Comes program ensures that local Red Cross chapters have the “people power” to respond to emergencies large and small. With a phone call, the Red Cross can quickly mobilize a community-based volunteer force.





In 2006, Grainger donated \$1 million to the American Red Cross as National Founding Sponsor of the Ready When the Time Comes program, and committed to partnering with other businesses to champion the program across the country.

Today, more than 450 businesses and organizations in 41 communities are part of Ready When the Time Comes. Eleven thousand employee volunteers are trained and available to respond, whether it is a local event or a larger-scale disaster. Volunteers have deployed on more than 50 disaster operations following hurricanes, floods, wildfires, heat waves, and ice storms. Through this program, the business community has helped increase volunteer response capacity by more than 37 percent in just four years.

The Ready When the Time Comes model has created a new network of people resources in advance of disaster and serves as an example of how businesses can partner effectively in humanitarian relief. Volunteers express their pride in being part of a corps of workplace volunteers. They truly exemplify the “people power” that is at the foundation of any disaster response. Communities are strengthened by their commitment and the volunteers take pride in being part of a unique corps of volunteers.

As Shari Crim, a Grainger Branch Manager from Boston, explained: “Day in and day out, we help people with emergencies. This program allows us to continue to do that, but in a different way. We help with the emergencies in their lives, the things that affect their families, the things that really matter.”

Ready When the Time Comes is a powerful engagement tool because it offers employees the opportunity to represent their company as a team and the ability to help people who are devastated by disasters. In my ten years at Grainger, I have seen firsthand our employee passion for helping in urgent situations. These teams are expert in getting the right products to customers where they are needed quickly, which is critical in times of disaster. Through the Ready When the Time Comes program, I have observed employees evolve from volunteers to brand ambassadors to community leaders. They may have originally seen the volunteer opportunity as “a nice thing to do,” but through their engagement their perceptions have changed to “we play a vital role in our community.”

Partnering for Resilience

By Butch Truesdale, Emergency Manager, Palm Beach County, Florida



In a previous Business Civic Leadership Center publication, “On the Brink,” Palm Beach County’s three-pronged strategy for building a more disaster-resilient community was described. In brief, the first prong is a pre-event Post Disaster Redevelopment Plan (PDRP) which provides guidance to decision-makers on issues the county will face in the aftermath of a major disaster. A second prong is a Business & Industry Emergency Support Function (aka ESF18) that integrates business interests into the county’s established emergency management process. The third prong, the primary topic of this essay, is a private-public partnership established to engage the business and nongovernment communities in the development and implementation of private sector–led disaster resilience initiatives.



After several years of exploring alternative strategies for engaging the private sector, the private-public initiative was launched in earnest in 2006. Initially a small core group of business, government, and nongovernment leaders met on numerous occasions to develop a business plan for the partnership and to craft a draft “wish list” of resilience initiatives. Gradually the partnership network was expanded to include greater numbers of local and regional businesses and established relationships with a number of local, regional, state, and national support organizations.

In April 2010 the partnership organized and hosted a comprehensive disaster preparedness workshop/symposium attended by 150 current and potential new partners. Invitees included a select cross-section of businesses and nongovernmental organizations (NGOs) representative of sectors considered especially important to community disaster preparedness and recovery. The symposium portion of the forum featured presentations by distinguished experts from the federal government, private sector organizations, and CEOs recognized for their leadership in past disasters. Emphasis was placed on government program and policy changes and best practices. The workshop portion provided opportunities for business, government, and nongovernment leaders to discuss and suggest a range of resilience initiatives and strategies in various topic areas.

The partnership and its resilience initiatives are founded on the following core beliefs:

- Major disasters require holistic approaches beyond the traditional boundaries of government-centric disaster management doctrine and practices and require involvement of a broad range of stakeholders.



As disaster recovery is fundamentally an economic proposition, engagement of the private sector (the community's primary economic engine) in all aspects is essential.

- Because disasters are, first and foremost, local phenomena, involvement of local resources in preparation, response, and recovery is critical to building a level of self-sufficiency that will hopefully reduce dependence on federal and state assistance, facilitate and accelerate post-disaster recovery, and preserve local control over the community's post disaster destiny.
- As disaster recovery is fundamentally an economic proposition, engagement of the private sector (the community's primary economic engine) in all aspects is essential.

Illustrative of the 50-plus resilience initiatives on the partnership's "to do" list are the following:

- Early reentry protocols
- Full-service business disaster recovery centers
- Accelerated/pre-qualified financial assistance
- Protocols for rapid mobilization of local business resources and capabilities
- Databases of locally and regionally available recovery resources and services
- Emergency communication and status monitoring systems

- Business preparedness and recovery training
- Businesses helping businesses programs (facility/resource sharing, etc.)
- Temporary business facilities
- Private sector housing for victimized first responder families
- Legislation requiring gas stations on evacuation routes to have emergency generators
- Logistics and technical private sector support for NGO recovery projects
- Regional and association-supported mutual aid
- Special small business assistance programs

The Palm Beach County private-public partnership model has drawn acclaim and recognition from the likes of FEMA, the U.S. Government Accountability Office, the Business Civic Leadership Center, and several state and regional programs. Its initiatives were recently briefed to the Senior Director Preparedness Policy and the National Security Staff of the White House, and featured in several recently released books on best planning and preparedness practices.

The Need for Post-Disaster Redevelopment Planning

By Susana Mueller, FPEM, Teco Energy



International and national catastrophic events in the past ten years have changed the way our nation understands preparedness. As a result, we are witnessing the evolution of Emergency Management and Business Continuity Management, and a growing emphasis on the importance of resilience in the United States.

Recently, Hillsborough County was awarded the opportunity to develop a county Post Disaster Redevelopment Plan (PDRP) to improve community resilience. Alongside a consultant, cross-sector planners implemented traditional planning processes to engage stakeholders in dialogue, and to determine how information would be compiled and used in PDRP development.

The goal of the PDRP is to complete redevelopment efforts within a three-to-five-year period after a catastrophic event (Henry 2009). Long-term objectives include restoration of public infrastructure and social services, re-establishment of an adequate supply of housing, restoration of jobs lost, and restoration of the economic base of the disaster areas (Henry 2009).

Catastrophic planning challenges include engaging different community sectors; obtaining consensus on solutions; aligning existing community growth plans; documenting agreements, processes, and procedures; changing local ordinance to support the plan elements; and implementing a process to ensure the final plan does not become obsolete with time.

Eight cross-sector technical advisory committees (TACs) were formed to capture issues and solutions in the areas of: Public/Private Infrastructure and Facilities, Health and Human

Services, Financial Administration, Environmental, Economic Redevelopment, Land Use, Housing, and Public Outreach.

Lessons Learned – Community Level

1. Community resilience is predicated on how well a community prepares businesses and government to recover from catastrophic events; the goal is to retain residents and businesses.
2. Personal, business, and community level preparedness are all equally vital to the success of a community PDRP.
3. It is important to use pre-established terminology (e.g., NIMS terminology).
4. Even when all TACs have a mix of subject-matter experts from all sectors to ensure plan cohesiveness, additional cross-TAC committees are needed and should be formed to address common issues.
5. Since most infrastructure is owned by the private sector it is important for the Infrastructure TAC to be led by a private sector planner in conjunction with a county planner.
6. A PDRP can be used as a vehicle to document catastrophic planning efforts, but the coordination of recovery and redevelopment elements cannot be left on the pages of the plan. The PDRP must remain a “living” plan that is exercised and visited several times a year to augment and improve.



7. The only way to elicit self preparedness is to provide residents with the information they need to build personal plans.
8. It is important to provide an outreach to small businesses through workforce agencies and chambers.
9. Provide an area to focus limited resources to service post-disaster needs and demands (Henry 2009). Identify priority recovery areas (PRAs) as a concept to accept displaced businesses, and place workforce temporary housing near PRAs.
10. Promote building smarter to reduce displacement at time of a future disaster (Henry 2009).
11. Modify the land-use intensity in specific areas to ensure private and public service provisions for businesses.

Lessons Learned – Enterprise Level

1. Understanding preparedness leads to resilience, and cross-functional communication among Resilience Management disciplines in an enterprise (Ceridian, 2006) can strengthen an already cohesive enterprise.
2. It is not enough for Hillsborough County to have a PDRP. All employers must develop an enterprise PDRP to support community redevelopment.

Hillsborough County planners have learned that the success of community preparedness is dictated by how a community uses traditional planning processes, absorbs and leverages preparedness information, balances partnerships with the private sector, and moderates social information.

Disaster Logistics and the Private Sector: Issues and Opportunities

By Jock Menzies, Chairman, the Terminal Corporation



As a businessman, I have had a seven-year journey seeking to understand and enable the engagement of the business and industry in effective disaster relief support. I am particularly grateful for the opportunity to do much of this as the president of the American Logistics Aid Network (ALAN, www.ALANaid.org), which is a post Hurricane Katrina initiative of 18 supply chain associations.

The impact on and recovery rate of supply chains after an extreme event often defines the magnitude of a disaster. Avoiding long-term economic and demographic trauma requires the engagement of the authority, resources, structures, and capacities from the government, nonprofits and private sectors.

Disaster relief is not an orderly command-and-control environment. The following elements come into play.

- Relief agencies are not monolithic. They usually exist at a national level as well as state and local levels. Agendas may differ, and from unit to unit there are variations in services provided and in the capacity to serve.
- Relief is choreography, and the music changes. A meal served by the Red Cross may have been prepared by Baptist Relief Services with Feeding America (or a food services company) providing the food delivered via logistics support from Adventist Community Services and water provided by FEMA. Some of these relationships will be long-standing; others are ad hoc arrangements.
- Participation is relationship and trust-based. Agencies work with one another and build their teams from known entities and individuals. Concern about brand protection and policy understanding coupled with the demands of an

extreme event complicate the process of engaging with a responding agency during a disaster.

- Business, with notable exceptions, does not organize to support disaster response on a sustained basis.
- Most business engagement is at the financial philanthropic or leadership level. While there may be periodic involvement at the operations level, private sector and agency sectors generally operate within their own silos.
- Responsibility is initially at the local level. Once past the community-level, responsibility rises to state emergency management agencies (EMA) structures which typically work with the relief agency community—usually in the form of voluntary organizations active in disaster (VOADs). When invited the federal government became engaged through the Department of Homeland Security's (DHS) Federal Emergency Management Administration (FEMA).
- Government response is encumbered by legislative and regulatory constraints in funding relief efforts, use of government assets, purchasing, and the accepting of donations.
- Visibility is poor. Systems do not cross relief agency and government lines. There is no shared system of nomenclature and classification (taxonomy).

ALAN has found a number of ways to engage supply-chain-based associations and their members constructively.



- ALAN's Web portal, which is based on National Donations Management Network (NDMN) technology, allows EMAs and relief agencies to post specific needs including on-the-ground contact information for the agency and individual involved.
- By directing NDMN-posted needs to the individuals and companies most likely to have the capacity, the ALAN network has yielded results. Recent examples include sourcing donations of cleaning supplies to help with Nashville floods, transporting orphans out of Haiti, and identifying a volunteer experienced in logistics and IT for on-the-ground support in building transitional housing.
- Disaster response constrains and removes logistics capacity. Drawing on industry knowledge and connections ALAN has been able to present options and identify transportation alternatives. When Global Links needed transport for donated medical equipment from Pennsylvania to Florida for shipment to Haiti, a connection to Pittsburgh-based Genco provided the solution.
- Participation in conferences, tabletop exercises, and emergency management conference calls is important in establishing the relationships and trust necessary to engage and is critical for understanding the operational language and ethos. USAID's invitation to participate on a transportation committee led to the identification of shipping alternatives for Haiti relief agencies.

ALAN provides an outlet for organizations who may not have otherwise participated in relief efforts. Some corporations have established outlets of participation in community and national humanitarian efforts. For those who don't, ALAN brings visibility to requests by vetted organizations. In the weeks after Hurricanes Gustav and Ike hit the Gulf coast, ALAN facilitated donations of fans, bedding, wheelchairs, and walkers. The donations were made after companies were alerted by supply-chain-association communications. Most businesses want to help; ALAN allows them to participate in the way that makes the most sense for their business. That said, we are enthusiastic about proactive corporate efforts such as the below and encourage such direct engagement.

- Establishing ongoing programs with relief agencies prior to an event is the best form of private sector involvement. W. W. Grainger's partnering with the American Red Cross established the "Ready When the Time Comes" program, which provides trained employees and meaningful corporate participation. UPS, TNT, and Agility established small quick-response logistics emergency teams (LETs) that collaborate with the UN Logistics Cluster structure. Numerous other examples of this approach exist at the national and regional levels.
- Events may create specific opportunities. An example is the Jobs4Recovery website established by IBM and the U.S. Chamber of Commerce after Hurricane Katrina.
- Corporate preparedness is in itself a contribution to disaster relief as it reduces the burden on the system should there be an event. This includes programs for employee preparedness such as those offered by the SafeAmerica Foundation. A corporation's resilience is only as great as the readiness of its people.

Events of the past decade have greatly increased interest in disaster response. Larger-scale and multiple events are now considered the norm in planning sessions. New concepts of organization are being discussed such as the Megacommunity thinking espoused by BoozAllenHamilton which describes a sphere of interest where governments, corporations, and nonprofits collaboratively intersect. Numerous academic institutions internationally are engaged in research in humanitarian relief and disaster logistics as well as developing curricula for graduate and undergraduate study in these fields. Technology supports democracy in allowing potential donors to connect directly with needs, helping to offset skepticism and cynicism regarding funds usage and overhead.

Disaster relief engages a network of networks. This creates some organizational messiness but enables creative self-organizing approaches. It offers the opportunity to "put on a glove and get in the game."



PART 3: WHERE WE ARE GOING



Disaster Recovery as an Academic Discipline

By Gavin Smith, Associate Research Professor, Department of City and Regional Planning, University of North Carolina



While significant strides have been made in the last several years, disaster recovery remains the least understood aspect of hazards management, when assessed relative to preparedness, response, and hazard mitigation (Berke, Karterz, and Wenger 1993; Smith and Wenger 2006). Furthermore, our understanding of the role of various stakeholders, including state government agencies, businesses, nonprofits, quasi-governmental organizations, and individuals impacted by disasters remains less understood when compared to federal and local governments (Waugh and Sylves 1996; Smith and Wenger 2006). This reality is manifest in the lack of sound recovery policy, pre-event planning, and poor recovery outcomes following disasters.

Several factors contribute to our current understanding of disaster recovery. They include: 1) lack of recognized theory of recovery; 2) a limited number of studies that quantitatively measure identified variables; 3) a lack of multidisciplinary research; 4) few longitudinal studies of recovery; and 5) a poor job of translating what we know about disaster recovery to practitioners, and thus difficulty learning from those who make up a loosely integrated network of aid providers before and after events.

Those who study natural hazards and disasters have no well established theory of recovery to undergird research findings in an area that is experiencing increased attention, particularly following Hurricane Katrina (Smith and Wenger 2006). This reality hampers both our advancement and integration of knowledge. Theory allows researchers to critically evaluate the interaction of variables and helps guide future research. Theory also benefits practitioners as their actions, including the development of practical solutions to complex problems,



can be guided by verified findings that are theoretically grounded.

Among the most pressing problems associated with the development of a theory of recovery is the limited use of quantitative measures. The testing of a theoretical construct benefits from the measurement of the strength of relationships across identified variables. When correctly aggregated they form the basis of a theory that helps to explain a complex process like disaster recovery. Variables or “factors,” are identified from both past research findings and new hypothesized relationships. Through the application of statistical techniques, researchers can help to better explain the influence of each variable or combination thereof on an outcome or “dependent variable” like sustainable community recovery. This has direct benefits to both the advancement of our understanding of recovery and the application of that information in practice.



Compounding these problems is the moderate level of success that has been achieved over time in encouraging the hazards and disasters research community to engage in true multidisciplinary research that spans physical, social, and engineering-based fields of study. This is particularly germane when attempting to assess the disaster recovery process. In 1975, the *First Assessment of Research on Natural Hazards* was published. Among its key findings was the need to better integrate the physical sciences with social, political, and economic realities (White and Haas 1975). The second assessment, titled, *Disasters by Design* (1999) concluded that while progress had been made, the need to continue the pursuit of multidisciplinary research remained. The effects of Hurricane Katrina and the growing awareness of the nexus between climate change and natural hazards provides further evidence of the growing importance of such pursuits.

Not only is there a need to broaden the application of what we know across disciplines, there is a greater recognition that such efforts should consider longer temporal scales.

Nowhere is this more relevant than in the case of disaster recovery, which is often a drawn-out process and one in which some individuals, groups, organizations, and communities do not attain pre-event social, economic, or physical conditions. There remains a limited number of longitudinal studies of the disaster recovery process. In 1977, Haas, Kates, and Bowden published a series of case studies in their book *Reconstruction Following Disaster* which attempted to delimit the nature of the physical reconstruction of communities over time. The case studies suggest a linear, sequential process. The studies did not, however, clearly explain the differential pace of recovery across social groups, including those that are socially vulnerable, or those that have differential access to information, power, funding, and other resources.

An additional finding of the *First Assessment of Research on Natural Hazards*, and *Disasters by Design*, which both represented the collective effort of hazard scholars, practitioners, and policymakers, was the need to improve the



Overall, researchers have done a poor job of translating research findings into practice.

dissemination of research findings to a broader audience. Overall, researchers have done a poor job of translating research findings into practice, while many practitioners are not actively engaged in the search for answers to those questions best answered by hazard scholars.

Given the constraints identified, a number of efforts are under way to address many of these concerns. Next, actions are briefly discussed and specific recommendations are made to further necessary improvements.



In order to address the lack of a unifying theory of disaster recovery, the National Science Foundation (NSF) has recently awarded a grant to the Public Entity Risk Institute and the University of North Carolina at Chapel Hill to conduct a two-day workshop focused on the development of a theory of recovery and the creation of an ongoing research agenda to test and refine identified concepts.

A growing number of quantitatively based studies of recovery are emerging, including those tied to the use of financial analyses, measures of reconstruction, self-organizing systems, and identified metrics, many of which rely on a multidisciplinary approach (Smith and Wenger 2006).

Finally, the proposed Resilience and Vulnerability Observation Network, or RAVON, proposes to create a series of organizational research nodes that will serve as repositories for the collection, analysis, and archiving of longitudinal data associated with the study of natural hazards and disasters. Thus RAVON offers great promise as a means to tackle research questions associated with the recovery process.

The translation of research findings can and should be improved through the growth in the number and breadth of multidisciplinary research centers in the United States and across the world. These centers offer promise but remain underutilized as a means to disseminate research-based findings, learn from practitioners, and study those issues most relevant to applied settings.



It is clear that work remains to be done in order to improve the academic study of disaster recovery. Specific recommendations include:

1. Enhance the solicitation and funding of multidisciplinary research in recovery through organizations like the NSF as well as foundations, professional associations, and quasi-governmental organizations.
2. Establish RAVON and provide sustained funding to conduct longitudinal studies and house universally accessible research data that can be used to more systematically study disaster recovery.
3. Create institutional arrangements that foster the dissemination of research findings and provide a forum to seek answers to researchable questions posed by practitioners, policymakers, and those who are drawn into the process of disaster recovery. "Boundary-spanning" organizations like professional associations, including the U.S Chamber of Commerce, should play a key role in this effort.



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Ten Years of Stone Soup: Creating Disaster-Resistant, Sustainable Communities

By Ann Patton, Founding Director, Tulsa Partners and Project Impact

It takes a village to make stone soup.

You remember the story: Poor villagers thought they had nothing but a pot of hot water and some rocks. Then first one and then another stirred in whatever little scraps of food they had, and they ended up with enough soup to nourish them all.

The lesson of the Stone Soup legend—everybody contributes, everybody wins—was behind the Project Impact initiative in the late 1990s. The idea by James Lee Witt, then director of the Federal Emergency Management Agency, was to fund a handful of test communities, encourage them to mobilize local partners, create cultures of hazard-mitigation and, in the process, curb disaster losses and build “disaster-resistant” communities. The hope was that, over time, locals would be empowered to take responsibility for breaking the recurring cycles of disaster losses.

Over a few years, about 250 communities signed on. It didn't work everywhere; but where it worked, the Project Impact process showed great promise. An independent analysis of sample Project Impact grants showed all had positive benefit-to-cost ratios, even without considering important but difficult-to-quantify benefits such as public education. (*Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities*, by the Multihazard Mitigation Council of the National Institute of Building Sciences, 2005, pp. 120-121.)

The Bush administration ditched Project Impact in 2001, before it really had a chance to make its mark, but a few die-hards never got word of its demise. By hook or crook, they are continuing Project Impact, without federal funding and by many names. Seattle never stopped retrofitting homes

to withstand earthquakes; Jefferson County, West Virginia, never stopped fighting floods and winter storms; and Miami and Charleston never stopped helping people resist hurricane devastation, for example.

Tulsa is another case in point. After their federal grant ended, the Oklahoma city sponsored Project Impact for several years. Then city funding dried up during a budget crisis. But in 2000, Project Impact morphed into a 501-C-3 nonprofit named Tulsa Partners, Inc., which continues today.

Their partners cover a broad spectrum: corporate powers such as the local chamber, banks, home builders, and State Farm Insurance; institutions such as Tulsa Public Schools and the Oklahoma Department of Insurance; national expert groups such as the Institute for Business and Home Safety and Save the Children; nonprofits and United Way agencies; grassroots citizens and volunteers.

Tulsa Partners exists on a shoestring budget, led by Executive Director Tim Lovell and a 16-member board of directors. Funding is a day-to-day challenge. Occasional small project grants are the “stones” in the budget soup; partners, grit, and sheer ingenuity provide the rest.

What has Tulsa Partners done in the past decade? Their eclectic collection of projects is connected by an overarching program mission to create *community*, based on Tulsa Partners' belief that the best defense against disaster is a community of people who take care of each other. Examples: disaster preparedness and prevention for children, nursing homes, and the hearing impaired; tornado SafeRooms; business continuity planning for nonprofits and small businesses; a vulnerability assessment of critical facilities;



a community recovery plan; a hazard-mitigation plan for preserving historic buildings; and a prototype appendix adding children's concerns to the emergency operations plan. A common project objective is individual and collective civic empowerment to build safe, strong places.

A unique Language & Culture Bank links together Jewish, Islamic, Hispanic, American Indian, African American, and other groups. They are building bridges across cultures to foster good will and offer crisis-intervention, translation, and interpretation services. They created a backlash-mitigation program to prevent crisis-induced hate crimes.

Tulsa Partners specializes in creating outside-the-box projects to address identified needs and then spinning them off to other entities. In shorthand, the process is: ID need, innovate, incubate, institutionalize; repeat and repeat to address additional needs and opportunities.

One example is named McReady. Tulsa Partners joined with McDonald's to create a month-long disaster-preparedness blitz. Tulsa Partners' cost: close to \$0, because partners donated the educational materials such as tornado-safety tips on McDonald's tray liners. After two years, the state emergency management agency took the project statewide. Now every April is McReady month across Oklahoma, and hundreds of thousands of McDonald's customers receive free life-saving disaster-safety information just before storm season.

Tulsa Partners' holistic vision connects issues as well as people. Thus, the group sees environmental protection and hazard mitigation as two sides of the same coin. They have created a Green Building Resource Library, where every fourth Friday is Green Bag educational luncheon day; and they are raising funds to build a demonstration Millennium House to show how to live safely and in harmony with nature.

The Tulsa Partners and Project Impact have much to commend them as models for the rebirth of a national

program. The nation would be well served by locally based cooperatives working in the long term—before, during and after disasters—to create safer and more sustainable cities and towns. But if such cooperatives are to thrive in communities across the nation, they may not come free.

The miracle of stone soup has its limits. The recipe lacks sustainability: there may well come a day when the soup runs out. Tulsa Partners, like many small nonprofits, is perpetually threatened by wolves at the budget door. People across the nation like Tim Lovell, together with their partners, have done everything with next to nothing for a decade, but they may not be able to do it forever.

As a rule, even with volunteer and partner largess, small nonprofits cannot survive without at least one salaried director to coordinate the jazz band of volunteers and partners. Any serious national design for community-based hazard-mitigation cooperatives should include at least baseline funding.

Surviving despite all odds, unsinkable nonprofits such as Tulsa Partners demonstrate some of the essential principles of the Project Impact model. Collaborating partners work together at local levels to create *community* and a *culture* of loss prevention, to build disaster-resistant, sustainable communities. The partners and their works may be quite diverse, but they are united by that single vision. Informal peer-to-peer networks connect these partners across the nation to share lessons learned.

Gathering up whatever neighbors can contribute and mixing it together into a nourishing stew—it's a great way to make the most of scarce resources and, in the process, build safe and sustainable communities. With a little help to keep the fire burning and the pot boiling, local partners can cook up fine stone soup that nurtures a safer, stronger, and more sustainable nation, one hometown at a time.

Disasters as Catalysts for Change

By Sidney Coffee, Senior Advisor, America's Wetland Foundation

Disasters, by their very nature, bring about change—immediate changes to be urgently addressed and the long-term kind that can result in new policies and alter public perception and even influence politics.

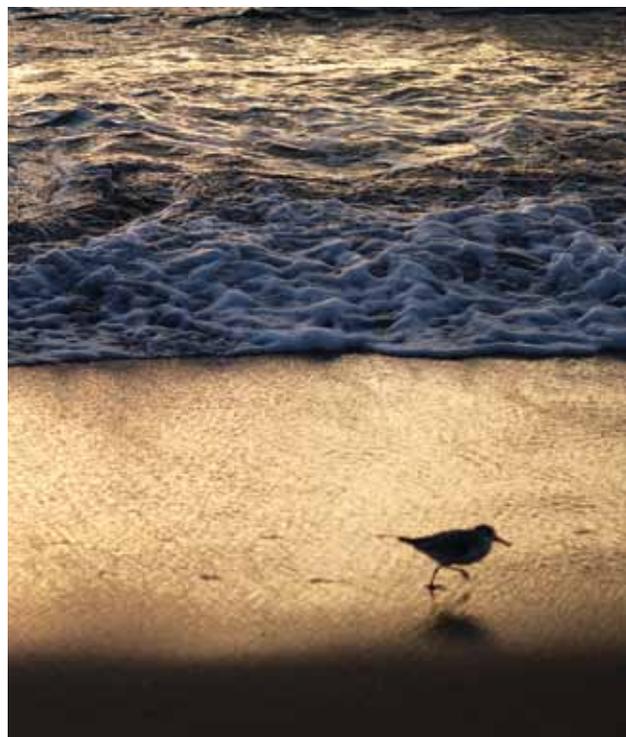
In five short years, the Gulf region has experienced wide-ranging changes resulting from disasters; Hurricanes Katrina and Rita brought dramatic changes to the landscapes of Mississippi and Louisiana—destruction of wide swaths of communities, including irreplaceable historic structures and ancient oaks and the loss of more than 200 square miles of wetlands, critical to the ecological and economic well-being of the nation. In addition to the loss of life and the physical destruction of a major U.S. city and numerous coastal communities, these two storms, complete with levee failures, uncovered social ills long ignored and caused populations to disperse and political demographics to change overnight.

As if proving the point of how vulnerable this region is, Mother Nature followed up with Hurricanes Gustav and Ike, ensuring that human suffering and the loss of communities and infrastructure was felt further west and north than Katrina and Rita were able to accomplish.

And now we have the unrivaled Deepwater Horizon rig disaster and its parade of environmental and economic horrors touching every U.S. Gulf state from Texas to Florida. Even if the flow of oil has been permanently stopped, the impacts from this most unexpected disaster will not be over by a long shot.

How do we take advantage of these changes? How do we ensure we are more resilient as communities and economies and ecosystems and industries and port systems and businesses and even as individuals?

After Katrina and Rita, the state of Louisiana faced not just the problem it had long acknowledged of coastal land loss and its devastating consequences, but the fact that its hurricane protection was, at best, vulnerable, and, at worst, nonexistent. State leaders made a conscious and calculated decision to combine restoration with protection and to reorganize state government around that concept, creating the Coastal Protection and Restoration Authority as the final word on levees and the state's coastal restoration efforts. At the same time, the state developed "Louisiana's Comprehensive Master Plan for a Sustainable Coast", a conceptual plan for integrated ecosystem restoration and hurricane protection, that would guide the state's efforts and somewhat buffer its dependency on federal agencies to set timelines and determine actions.





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The same type of restructuring of government at the federal level is needed to comprehensively address coastal restoration. Efforts to address this restructuring are under way, both through legislative approaches and through executive actions, like the roadmap recently released by the working group of the White House Council on Environmental Quality.

Presently, the impacts from the Deepwater Horizon incident are being pondered at all levels. What will be the climate for continued deep well drilling in the Gulf? What will be the actual economic and environmental impacts from the flow of oil into marshes and onto beaches? What will be the economic impact of the deep well drilling moratorium? How we go forward as a region and embrace the changes that will inevitably come as a result of these still unfolding events will tell the tale.

As the obvious issues regarding the Deepwater Horizon incident are addressed—cleanup; restitution to businesses and workers; damages to habitats, wildlife, and marine life—the America's Wetland Foundation (AWF) is working to remind the Obama administration and the federal agencies that, at the core of the matter, is the continuing deterioration of the coastal wetlands and the vulnerability of the entire Gulf coastal landscape upon which the United States heavily depends.

No matter the disaster or its location or intensity, changes will absolutely result. How the impacted region embraces those changes and finds the embedded opportunities will ultimately be the difference between resiliency and demise.

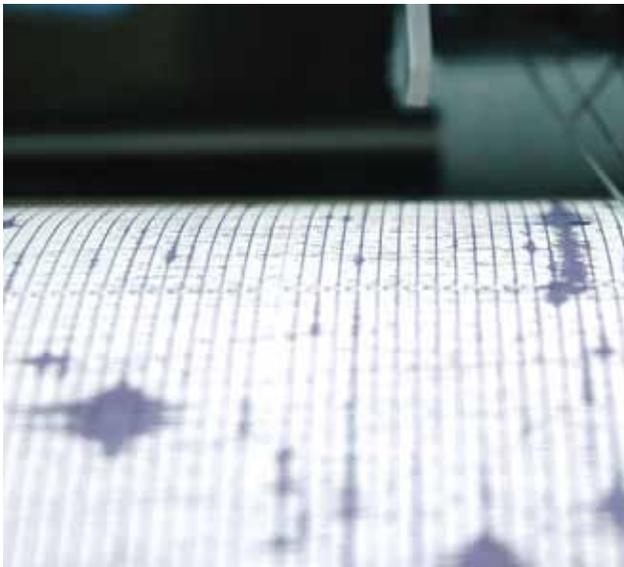
Disaster Resiliency on the West Coast

By Ines Pearce, Senior Disaster Response Advisor and Help Desk Manager, BCLC



BCLC convened leaders along the Pacific Coast in July to participate in the Disaster Resilience and Community Sustainability Forum. Businesses, governments, and nonprofit representatives at different levels discussed two plausible scenarios that have occurred in the past and will happen again. Dale Cox from the U.S. Geological Survey presented “The Great California ShakeOut” scenario, which details a magnitude 6.7 earthquake on the San Andreas fault and the “ARkStorm” scenario, soon to be released, detailing a type of catastrophic storm which last occurred in 1862 and would cause massive flooding and landslides. Both scenarios would cause major impacts to people, property, infrastructure, and commerce.

The purpose of these scenarios was to inform attendees about the potential events, then allow speaker panels to describe effects at the local, state, region, and national levels. This provided an opportunity for speakers to address the current status of readiness based on experience of the recent past,



but also where we as industries, sectors, and communities need to go from here. The panelist and the Q&As were some of the high points in getting great conversations started and solutions developed. Many attendees commented how valuable it was to interact with people in the room they’d never met and now saw great importance in exchanging business cards.

Some highlights included Peter Ohtaki, Executive Director of the California Resiliency Alliance, described the critical need of creating a “network of networks” by not recreating organizational structures but aligning them so that communication channels are more efficient and allow for a better flow of information-sharing and collaboration. BCLC Executive Director Stephen Jordan introduced the concept of the Resiliency Continuum which showed the very real connection between actions and effect on resiliency. Resiliency is not an abstract concept but something attainable through specific activities.

Repeatedly, throughout the day, emphasis was given to the importance placed on business continuity, especially for small businesses, and moving employees beyond awareness into preparedness actions. Solutions like the DRB Toolkit®, disaster planning software for small businesses, were discussed as a resource to make this happen because employees are an important element to an organization’s resiliency; without them, services stop and critical operations are impossible. The same goes for trying to prepare the West Coast without including its communities in the discussion, or communities not including their small business. As Mark Benthien from the Earthquake Country Alliance stated, “We’re all in this together.” The United States is a big country: those on the West Coast were urged to seek resources and contacts beyond their region to help make planning for



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resilience a little easier in the near future. It is collaboration and coordination locally, regionally, and nationally that make resilience not just a process, but a destination.

And a Note on the Help Desk

One item from the Forum requiring comment is the National Disaster Help Desk for Business (Help Desk) sponsored thanks to the Office Depot Foundation and run by BCLC. Since January calls, coordination, donations, requests, offers for support, volunteers, etc. have been ongoing. Sometimes the Help Desk provided a place to call when a person didn't know where else to dial. One Tennessee business owner spent all day cleaning mud out of her restaurant, then went home exhausted to bed, but it was then that concerns and fears overwhelmed her of whether her business would survive. At 1 a.m., she called the Help Desk. It was at the end of this conversation that she stated, "I have hope again, and I know what I need to do next." She went back to bed and was able to sleep.

Many small businesses are facing tough times, and sometimes just need to hear they're on the right track or learn where additional resources are. Whatever the cause,

businesses have found that the Help Desk will take their call and can make a difference in their day, even if only a small one. If 2010 disasters are any indication, we will have more businesses to help in the years to come.



Creating the Perfect Storm: Civic Institutions and Their Role in Natural Disasters

By Michael Gallis, Principal, Michael Gallis and Associates



Are “disasters” the product of unexpected natural events or the failure of civic institutions? The question highlights the difference between a natural event and a natural disaster. Is it possible that the failure of civic institutions can turn a natural event into a disaster? Unfortunately, the cause of disasters is so commonly attributed to the natural event itself that the role of civic institutions (governments, nonprofits, and foundations) in natural disasters is not properly understood or assessed. Now, with intense natural events occurring at an increasingly rapid pace, it is time to seriously reassess and redefine the relationship between civic institutions and natural events in creating human disasters.

In 2010, we witnessed the savage effects of earthquakes in Haiti and Chile and, previously, the effects of Hurricane Katrina in New Orleans. These disasters present a set of comparable case studies through which to understand how institutional capacities can minimize or maximize the effects of extreme natural events. Failure of civic institutions at any of the six steps of the disaster timeline—prevention and preparation, mobilization, impact, post-disaster relief, short-term recovery, and long-term recovery—contributes to the disaster by magnifying the effects and prolonging the impacts. Recent examples are: Haiti, where a lack of civic capacity and regulatory provisions made poorly constructed buildings susceptible to collapse and helped fuel chaos; Chile, where strong building codes, enforcement, and emergency preparedness resulted in less than 1 percent of Haiti’s deaths, despite the fact that the earthquake was 500 times stronger; and Hurricane Katrina, which left 1,400 dead and created billions of dollars worth of damage, despite occurring in a developed country with more than a week’s notice.

Re-Thinking Disaster Management

Events like these will be only too frequent in the future as climate change worsens and weather patterns become more extreme. The increasing probability of extreme natural events combined with the institutional failures we’ve witnessed in the recent past make reassessing the role of civic institutions in disaster management essential.

The author proposes a “system of systems” rather than a geographic approach to disaster management, as disasters don’t stop at fixed political boundaries but have impacts on systems across multiple political boundaries. Within a “system of systems” approach, all major urban services (i.e., transportation, economy, health, public safety, housing and education, etc.) are treated as interconnected systems. Natural events impact all systems just as in a human body a





disruption to one or more systems can wreak havoc on the others. Hence, assessing and understanding the role and activities of civic institutions in relationship to each system is important.

The Role of Civic Institutions in the Six Steps of Disaster Management

Prevention and preparation The most important step in the entire disaster timeline, but one often neglected, is the first step—prevention and preparation. As the contrast between the disasters in Haiti, Chile, and New Orleans clearly illustrates, adequate preparation can make a significant difference in disaster outcome, even when the event is unexpected. In Haiti, lack of building codes and enforcement contributed to the earthquake's impact. In New Orleans, lack of levee reinforcements was the major culprit in transforming an extreme event into a full-blown disaster. In contrast, Chile, with strong building codes, avoided major loss of life despite an extreme natural event. Taking effective preventative

strategies has significant results, but creating systems-level planning among institutions and across political boundaries is also necessary. This systems framework would allow for more of a bottom-up balance to top-down planning, as system leaders would be responsible for writing disaster plans (i.e., establishing systems dependencies and vulnerabilities) and performing damage assessments, which would then feed into designated emergency management organizations, thereby greatly enabling mobilization capability.

Mobilization Insufficient evacuation and other mobilization failures with Hurricane Katrina are clear evidence of the importance of mobilization on disaster impacts. Recognizing dangers and tracking them are the first goals in this step. While some natural events come without warning (e.g., earthquakes, tornadoes), many others are largely trackable (e.g., hurricanes, tsunamis). In these cases, mobilization should occur on a system-by-system basis corresponding with the scope and timing of the threat. The priorities are damage minimization measures (e.g., boarding up windows,



evacuating citizens) and the mobilization of disaster relief by system. The problem is that institutions don't currently mobilize on a systems basis because they do not plan on a systems basis. They recognize political boundaries but not systems impacts, which require very different kinds of responses. A systems approach requires us to redefine the way we see an impact as impacting systems, not places.

Impact Appropriate preparation and mobilization should ease damages during impact, but if not, accurate monitoring of the extent and intensity of damage, including real-time monitoring of critical systems, becomes essential.

Post-disaster relief The focus of most people is on structural damage following extreme events, but the human component, whether on a personal or societal level, is just as important. The primary goal of post-disaster relief is alleviating suffering in the aftermath of the disaster by providing emergency services (food, water, shelter), restoring order, and clearing rubble. A lack of civic institutional capacity, evidenced in the inability to provide emergency services, restore order, and clear rubble, left many in Haiti, New Orleans, and Chile

feeling that their governments had deserted them. While government response in Chile was much better than in Haiti, slow mobilization of relief supplies and police forces sent hundreds looting and resulted in 60 percent of the public rating government response as "slow or inefficient." Post-Katrina relief failures (i.e., thousands languishing in the Superdome with heat exhaustion and dehydration) are probably the most publicized of the three disasters.

To address relief needs adequately and organize for a more effective recovery, a "system of systems" approach incorporating human and physical impact assessments would provide a more effective way of directing and prioritizing relief efforts. If the civic institutions connected with the system community (i.e., medical, transportation, etc.) were digitally connected in real time to a coordinated relief center, relief could be more easily directed to critical locations, greatly alleviating suffering more rapidly. However, relief efforts organized geographically try to address all systems and do not coordinate among systems or across political boundaries. As a result, the public, private, and institutional sectors are left to go it alone in a highly fragmented, disorganized, and chaotic situation.

Short-term recovery Thorough assessments are the foundation for short-term recovery—the period of 2-3 years following the disaster. The goal in this stage is to get the damage repaired and the community able to perform its basic functions. This period offers the opportunity for public, private, and institutional leaders to ask whether they want to simply replicate damaged system parts or replace them with something else; it is a time to establish visions for the future and to turn the disaster into a net benefit. Unfortunately, the lack of pre-planning and a lack of clear understanding of the systems that weave together to form the region become barriers to developing a future vision. If we had information on the patterns and performance of systems prior to a disaster, we could develop strategies for recovery that would result in the emergence of a stronger community rather than one floundering in confusion. In a "system of systems"



To address relief needs adequately and organize for a more effective recovery, a “system of systems” approach incorporating human and physical impact assessments would provide a more effective way of directing and prioritizing relief efforts.

approach, civic institutions could use the disaster as an impetus for better development and improved quality of life.

Long-term recovery In long-term recovery, which has an outlook period of 5 to 10 years, progress is assessed on a system-by-system basis. Evaluations can track systems improvements and guide continuing implementation of long-term recovery efforts.



Long-term recovery begins in the preparation and planning stage. It is possible that long-term recovery could begin in the short-term stage, but lack of early planning makes later efforts much more difficult.

The Need for Transformation in the Role of Civic Institutions

This comparative review of the social and economic impacts triggered by natural events reveals that even in the most developed countries, lack of institutional capacities and understanding of their roles can magnify the effects of natural events and result in even greater disaster.

In a time of increasingly severe natural events, the need to redefine the role of civic institutions in natural disasters has never been greater. We can no longer afford to resign ourselves to reactive measures in response to natural events. Reassessing and redefining civic institutions within a systems framework provides the framework for institutional cooperation and acknowledgment of the human, organizational, and infrastructural needs and responsibilities at every step of the disaster process. We must recognize there is an increasing need to transform the role of civic institutions and better situate ourselves to prevent future natural events from becoming natural disasters.

The Road Ahead: How the Past Decade of Disaster Relief Efforts Can Prepare Us for What's Next

By Ken Sternad, President, UPS Foundation



As we look back on past disaster relief efforts, one thing is clear: businesses have an increasingly critical—and active—role to play in urgent humanitarian relief and recovery.

Companies bring management expertise, technology, financial acumen, and other business skills that are invaluable to relief and recovery efforts. One of the clearest examples has been the Haiti earthquake. Within weeks of the January 12, 2010, quake, U.S. businesses pledged more than \$147 million in financial and in-kind contributions—one of the largest corporate responses ever. Skilled volunteers, such as medical personnel from Merck, technical support teams from Microsoft, and logistics experts from UPS, have been essential to relief efforts.*

While the business community has made important strides in responding to disasters like Haiti's, there's far more we can do. The following lessons learned from prior disasters offer insight to help us work together to help save lives and restore livelihoods in the wake of a disaster.

Partner before disaster strikes. Better preparedness and collaboration efforts between businesses and nonprofits prior to disasters can make communities more resilient to disasters and ensure a more effective and coordinated response afterward—a lesson that was clear after Hurricane Katrina. Corporations must create ongoing partnerships with NGOs so they can prepare to save lives the minute a disaster strikes. NGOs' local knowledge of communities from Banda Aceh to Port-au-Prince ensures that the business community's response will be prompt and, above all, appropriate. At UPS, we've partnered with NGOs like the Red Cross and CARE for decades to assist with logistics and build distribution systems that will make disaster relief supply chains more efficient around the world.

Stagger relief, don't clog the supply chain. An unnecessarily crowded supply chain slows down disaster relief. In the first hours and days after a disaster, life-saving supplies like water, food, and medicine are needed immediately. Yet, well-intentioned people are quick to send valuable, but less vital supplies, which can impede distribution of what's needed most. In Haiti, for example, there were instances of donated supplies like articles of clothing that were on their way shortly after the quake—valuable over the longer term, but detrimental when volunteers are struggling to move food and water off the tarmac and into communities.

To avoid clogging the supply chain, companies can go to Aidmatrix, a nonprofit that uses supply chain technology, to donate the most up-to-date supplies needed by NGOs who





are active on-the-ground. They also can work with a logistics company like UPS to see whether we may be able to ship less urgent goods via ocean container or other modes to stagger delivery.

Make careful assessments and flexible commitments. At an Association of Corporate Contributions Professionals meeting hosted at UPS, we heard unanimously from the business community that companies face intense pressure to make long-term commitments immediately after a disaster. There can be no doubt that quick response is essential, but response must be based on local assessments and above all be flexible. Every disaster is unique. The best thing companies can do is work with their NGO partners to determine what's really needed, and when. To address changing needs, companies must put flexible terms on their monetary donations. This way, NGOs can disperse funds as needed, enabling the business community to better contribute to long-term rebuilding and recovery. In addition,

realizing that there will never be enough funds to meet all of the needs, corporations can make significant contributions in other ways through volunteerism, technology, and business acumen that are invaluable to relief organizations during response and recovery efforts

Finally, we all have a role to play in keeping the lines of communication open before and after disaster strikes, both within our own companies and to external stakeholders like the media. This is critical to avoid misplaced donations that impede relief efforts, and to contribute to a wider knowledge about disaster preparedness, relief, and long-term recovery efforts that will help all of us to respond better every time.

*Business Civic Leadership Center: http://www.uschamber.com/bclc/haiti_corporatedonations.htm. Merck and Microsoft involvement backup can be found at: <http://www.merck.com/responsibility/community/community-feature-haiti-volunteers.html> <http://www.microsoft.com/presspass/features/2010/jan10/01-18HaitiRelief.msp>.

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