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THE NEXT BIG DISASTER: IS THE PRIVATE SECTOR PREPARED?

HEARING

BEFORE THE

AD HOC SUBCOMMITTEE ON STATE, LOCAL, AND PRIVATE SECTOR PREPAREDNESS AND INTEGRATION

OF THE

COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS UNITED STATES SENATE

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

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THURSDAY, MARCH 4, 2010

U.S. SENATE,
AD HOC SUBCOMMITTEE ON STATE, LOCAL, AND
PRIVATE SECTOR PREPAREDNESS AND INTEGRATION,
OF THE COMMITTEE ON HOMELAND SECURITY
AND GOVERNMENTAL AFFAIRS,
Washington, DC.

The Subcommittee met, pursuant to notice, at 1 p.m., in room SD–342, Dirksen Senate Office Building, Hon. Mark L. Pryor, Chairman of the Subcommittee, presiding.

Present: Senator Pryor.

OPENING STATEMENT OF SENATOR PRYOR

Senator PRYOR. The Subcommittee will come to order.

I will go ahead and call the hearing to order. I want to thank all the witnesses for being here and all the people in the audience for coming today.

This is a hearing for the Subcommittee on State, Local and Private Sector Preparedness and Integration, "The Next Big Disaster: Is the Private Sector Prepared?"

I really want to thank our witnesses. I am going to introduce you here in just a moment. What I would like to do is give each of you 7 minutes to make your statements.

Because of some scheduling conflicts around the Senate, I am not sure we are going to have any other senators come; but certainly if we do, we will do our best to accommodate their schedules.

Let me just start by saying that when you look at disasters and preparedness, in my State, for example, we have had 10 presidentially-declared disasters in the last 2 years. Ten in 2 years.

The northeast corner of Arkansas is sitting on the New Madrid fault which experts say and most agree that it could cause the most deadly and destructive earthquake we have had, if and when it ever causes an earthquake.

But we have had floods and tornadoes and ice storms in our State and you know that disasters are happening in other States as well.

We have also had two large international disasters in the Americas in the last few weeks, Haiti and Chile. These earthquakes are very grim reminders of the devastation that a natural disaster can have on communities, economies and the lives of the individuals involved.

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We spend billions in disaster recovery and we probably do not spend as much as we should on preparedness. The private sector does a good job in many ways depending on the sector and the company on preparedness and dealing with the aftermath of a disaster.

I wanted to point out the chart to my right.[1] If you look at the last couple of decades, the bars represent different parts of paying for disasters. The first, the blue bar is the Administration's budget request. The red bar is what we actually appropriated through the Congress, and then the green bar is supplemental appropriations. By the way the purple bar is the recent supplemental request.

The reason I point out the green bar, the supplemental appropriations, is because we end up paying for disasters one way or the other; and to pay for these disasters on the tail end is much more expensive than trying to pay for something on the front. There are ways that you can prepare and either not have the damage or be in a better position to overcome a disaster.

You can see the tall green bar for fiscal years 2000 to 2011, and it is stark how much it has risen from the previous decade. Part of that is because of Hurricane Katrina but you have to remember we had some other events in the 1990s. Hurricanes and other disasters were expensive too but Hurricane Katrina does make that bar a little bit distorted.

The point is I think that we need to do a better job of thinking through preparedness, working together. The private sector again has been working together on this.

What I would like to do now is call on our three witnesses. I will do a very brief introduction of each one and you can keep your opening statements to 7 minutes. You have a little light system in front of you, and I would love for you all to just try to keep to that 7 minutes, if possible.

Our first witness is Stephen Jordan, Senior Vice President and Executive Director of the Business Civic Leadership Center (BCLC). He has a long and distinguished background working on public and private partnerships and has been at this for a long time. We look forward to hearing from you.

Our second witness will be Dr. Jack Harrald. He is the Chair of the Disaster Roundtable for the National Academies. He has been focused in the fields of emergency and crisis management for over 20 years. He has written on these topics and has worked on disaster mitigation tactics. We appreciate your expertise and appreciate your being here.

Our third witness will be Dr. Stephen Flynn. He is the President of the Center for National Policy. He is a former advisor to the U.S. Commission on National Security, and has expertise in emergency preparedness and infrastructure protection.

I could spend three times as much on each one of your resumes because all of you bring great things to the table. But, Mr. Jordan, would you mind leading us off and take your 7 minutes. Thank you.

[1] The chart referred to by Senator Pryor appears in the Appendix on page 21.

TESTIMONY OF STEPHEN C. JORDAN,[1] SENIOR VICE PRESIDENT AND EXECUTIVE DIRECTOR, BUSINESS CIVIC LEADERSHIP CENTER

Mr. JORDAN. Thank you very much, Chairman Pryor. It is a pleasure to be here with you today. I greatly appreciate it.

As the Executive Director of the Business Civic Leadership Center, unfortunately we have had to deal with quite a few disasters over the past decade. I really appreciate this opportunity to discuss our current national preparedness efforts and some of the lessons learned and ideas that have been generated from some of those experiences.

We work with many companies, chambers of commerce, and also government agencies and nonprofit organizations throughout the country and around the world. In fact, our help desk right now is dealing with about 1,500 cases related to the Haiti and Chile at the moment.

The lessons that we have unfortunately date back to September 11, 2001, the Southeast Asia tsunami, Hurricane Katrina, floods, and fires. Clearly these disasters do not just come in one shape or size.

A lot of the companies and the chambers are telling us there are three major reasons that they need to be prepared.

First, they are very cognizant that the costs of disasters are rising.

Second, there is no silver bullet. No single agency or entity is going to cover every fall-out or every symptom that comes out of these disasters. So there is a certain amount of self-help that has to be built into the process.

And, third, disaster preparedness and community resilience, just by themselves, even if a disaster does not happen, promote risk reduction which, of course, lowers costs and also promotes operational efficiency.

But as we move forward, our history shows that you can never be prepared enough for a disaster. I mean, the reason they call it a disaster is because it is unexpected. It is unprepared for.

But there are several things that we know ahead of time that we really need to start working on and continue to improve. Some of these include raising awareness about the process, "who is doing what and where," and figuring out ways to reward prudent behavior.

Second, we need to invest in infrastructure upgrades. Third, we need to really develop this idea of mutual assistance. Earlier, I noted how no single entity can do it all. We have to figure out how we network together. Fourth, we have to improve information and coordination.

We believe that the country needs to move away from an ad hoc, reactive approach to disasters that rewards urgent needs and punishes prudent investment and move toward a proactive policy that invests in continuously improving our infrastructure, community design and business resilience.

[1] The prepared statement of Mr. Jordan appears in the appendix on page 22.

The first step to achieve this goal is mapping who is doing what, where, and how. You know, we really need to invest more in mapping and benchmarking.

We commissioned Dan Alesch, who is professor emeritus at the University of Wisconsin—he did the original Federal Emergency Management Agency (FEMA) study on the impact of disasters on business—to identify 10 recovery policies that States should have.

Where we would like to go with this research is now that we have a template about some of the recovery policies that have to happen, we would like to see how the different States do on the different factors and then be able to provide information to the States that are lagging. The information would identify what some of the States that are more advanced than others are doing so that we create kind of a mutual learning system and continuous improvement.

We also hold an annual disaster stimulation in DC. We did one actually on the New Madrid fault that I think some of the local chambers around the region kind of resisted at the start, but then they realized that the more that you prepare and look like you are engaged in risk reduction the more that people and investors feel comfortable about coming to a region because they know that you are taking into account the costs.

So we want to commend organizations like Safe America and the Great Shakeout Program in California and other groups that continue to figure out ways we can do more around planning, preparedness, and training.

We also think that it is vital to have continuous infrastructure design improvements and increased systems integration. Cases like the Minnesota I–35 bridge collapse, flooding in Cedar Rapids, and hurricanes in the Gulf Coast illustrate the fact that almost every part of the country needs to be thinking that how to reduce its vulnerabilities and improve its critical infrastructures.

Third, as I said, we need to increase our mutual assistance network capabilities. I will be happy during the Q and A's to talk about things like next-generation versions of Project Impact and other things like that.

Fourth, we need to explore ways to reward disaster preparedness and one of the things that we might want to raise awareness about is that after September 11, 2001, over 500 local chambers joined the Manhattan Chamber; and the Executive Director of the Manhattan Chamber, Nancy Ploeger, took $500, $1,000 and helped local businesses south of 14th Street to get emergency loans to replace windows or make payroll or things like that.

So one of the things we might think about is how do we reward companies that invest in mitigation ahead of time with perhaps improved or streamline capital access in the event of a disaster.

Fifth, if we want businesses to contribute their core competencies, we need to set up better technical assistance systems support systems. Seventy-five percent of business contributions right now are in cash but this form of assistance leaves on the table some of the most vital contributions that companies can make.

For example, logistics companies can help expedite the flow of goods. One of the things you would never think of that is important

after a disaster is convenience stores being open because people know if they can get to the milk or the gas, they are willing to come back.

There are some ways that we need to increase the relationships between local, State, and Federal officials about badging and credentialing and access so that we can streamline getting technical experts into place but streamline the ability of local people that are critical for recovery practices to come back in.

So fundamentally we need to help make businesses and their communities more resilient. So we have many companies and chambers that are investing in sustainability projects and we think that starts with design, with regional sustainable design.

With that, I will close my remarks at this point but will be happy to take questions during the Q and A's.

Thank you so much.

Senator PRYOR. Mr. Harrald.

TESTIMONY OF JOHN R. HARRALD, PH.D.,[1] RESEARCH PROFESSOR, CENTER FOR TECHNOLOGY, SECURITY AND POLICY, VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY, CO-DIRECTOR AND PROFESSOR EMERITUS, INSTITUTE FOR CRISIS, DISASTER AND RISK MANAGEMENT, THE GEORGE WASHINGTON UNIVERSITY, AND CHAIR, DISASTER ROUNDTABLE, THE NATIONAL ACADEMIES

Mr. HARRALD. Good afternoon, Mr. Chairman. Thank you for the opportunity to be here and to testify.

The opinions that I am representing today are my own and do not necessarily represent the National Academies or other affiliated organizations.

One of the preliminary titles of this hearing was New Paradigms for Private Sector Preparedness, which I thought was appropriate and timely. A paradigm shift is a fundamental change in how we perceive the world, what we believe, and in the ways we act.

In my opinion, we are at a point in time where such a shift in our policies and actions concerning extreme events is both necessary and possible. This paradigm shift will fundamentally affect how both the private and public sectors react strategically and operationally to these events.

The images of Hurricanes Katrina and Andrew, and the September 11, 2001, attacks are receding. The issues identified seem less urgent but the recent catastrophic earthquakes in Haiti and Chile have once again reminded us that our world view must include extreme events and their impacts.

We know that United States is particularly vulnerable due to its large populations living and working in high risk areas, seismic zones, coastal and river flood plains and near urban terrorist targets.

Catastrophic events can and will happened here. Are we resilient enough to ensure that our Nation and society can recover and thrive after such an event?

[1] The prepared statement of Mr. Harrald appears in the appendix on page 27.

Understanding and reacting to the risk of low probability, high consequence events is a challenge for any society. It is difficult to envision that which has not yet happened.

Many view extreme events as rare exceptions to the normal and that preparing for them is a waste of time and money, and that if an event should occur, the government, the Red Cross and others should be able to meet our needs.

The U.S. response doctrines imply that disasters produce victims that must depend upon the assistance provided by those trained and equipped to do so. In reacting to past events, we have created larger and more capable government-centric response systems.

This system has worked well for large events such as the September 11, 2001, attacks and the 1984 Florida hurricanes but has failed during catastrophic events such as Hurricanes Andrew and Katrina with devastating social and economic impacts.

How can this paradigm shift to one that will work when we need it most? I believe there are three areas where change is occurring now, and with leadership and investment will lead to a fundamental paradigm shift.

The private sector plays a critical and central role in each of these elements. The first is building and sustaining community resilience. The second is creating a collaborative and enabling preparedness response culture. And the third is using science and technology to replace reactive doctrine with proactive agile systems.

Community resilience is the key to preparedness. Relationships and resources that exist at the local level are the primary predictors of the ability to absorb, adapt survive and thrive when faced with extreme events.

We have historically focused on promoting individual preparedness and supporting business recovery and ensuring government continuity of operations.

Resilience, however, requires the building of a network of collaborative relationships. Significant national steps described in my written testimony have already been taken to make the development community and national resilience a strategic objective.

The disaster management culture is changing albeit slowly. The current preparedness response and recovery doctrine based on government-centric control will be replaced by a culture that enables collaboration.

Most people impacted by a disaster are uninjured, healthy and willing and able to help those more seriously impacted to rebuild their community. As stated by FEMA Administrator Craig Fugate, these willing and able citizens should be thought of as resources, not as victims.

The objective is not to create government organizations capable of doing things for people. We must be able to mobilize national resources, public and private, to work with citizens to help restore social, physical and economic systems.

Science and technology are providing us with new knowledge, capability and opportunities. We are witnessing a very significant shift in how science and technology are used in disaster response and recovery.

Physical science better informs us of our risk exposure and helps us to develop credible planning scenarios. Social scientists have introduced the concept of social vulnerability into the preparedness response and recovery doctrine and have studied how people behave during the crisis and recovery periods.

Preparedness must be based on what we have learned from science, not on disaster myths and fears. We are rapidly evolving a centralized, rigid government closed system to a decentralized, agile, open, private sector-owned and operated set of systems.

The challenges of the future are threefold and will include, first, recognizing the new capabilities technology is providing rather than being constrained by narrowly designed existing systems; second, creating ways to capture and integrate the flood of information from unanticipated sources rather than relying on pre-existing formal lines of communications; and three, creating the relationships and networks needed for each event rather than living with artificial organizational and physical constraints.

Already in 2010 there are two vivid disasters that exemplify the use of emerging technologies, the earthquakes in Haiti and Chile. I discuss examples of this innovation in my written testimony.

The boards and committees of the National Academies have analyzed the research available for many of these issues and I have attached a list of study and workshop reports published by the Academies during last 5 years to my written statement.

In conclusion, I would like to emphasize that the private sector involvement in leadership is key in all three paradigm changing trends I have described, building resilience, creating a collaborative culture, and creating new capabilities through technology.

The policy implications for the Federal Government are, I believe, in three primary areas. The first is implementing policies and programs that enable public and private organizations to set local and regional priorities and to collaboratively use their local resources and knowledge.

The second is to ensure that Federal funding and grant programs that are intended to create resilience are both adequately funded and well-coordinated. The stovepiping of current grants by agencies and programs can produce conflicting government mandated priorities that lead to competition for resources and actually discourage collaboration at the local level.

Finally, the creation of trusted relationships is the basis of any collaborative network and particularly in disaster preparedness. This requires open and frequent information sharing which unfortunately conflicts with the cultural values of much in the public and private sectors. Managers in both the private and public sectors are trained in and rewarded for withholding and controlling information, not for sharing it.

In my opinion, the trusted relationships necessary to break down these barriers are most likely developed at the local and regional level. Thank you.

Senator PRYOR. Thank you. Mr. Flynn.

TESTIMONY OF STEPHEN E. FLYNN,[1] PH.D., PRESIDENT, CENTER FOR NATIONAL POLICY

Mr. FLYNN. Thank you very much, Mr. Chairman.

It is an honor to be here today to testify on this important issue. As I said in my written testimony, I would argue this Subcommittee has the most important element and the most neglected element of the Homeland Security portfolio.

I would suggest that if we had the ability to take a satellite image and capture all the national capacity to deal with the issues we call Homeland Security, we would see a lot of capacity, but we would also see that 90 percent of it or so is non-federal; and how to engage that capability has been the missing element of our post-September 11, 2001, efforts in my view.

And that has national security implications. It has economic implications and it has civic implications. I would like to review those briefly.

From a national security perspective, I see this as absolutely a paramount effort that we need to be engaged in, engaging our civil society and private sector and communities in building resilience.

The reason for this is understanding the nature of the warfare we are confronting. The United States is so dominant militarily on the conventional front that the future of warfare regardless of what adversary you want to point to is undoubtedly going to be battling on the civil and economic ground, not on the conventional military ground.

And the reason for that is because an adversary believes if they can conduct acts of terror or other efforts in that arena, they will get a big bang for their buck. It should follow that the more resilient we are as a society, the better prepared we are, the less brittle we are as a society, then the less value this has as a means of warfare for our adversaries.

We basically have all our eggs in the basket of preventing future acts of terror on U.S. soil. I am frankly a little skeptical about the capacities, as good as they are, on the national security, intelligence and law enforcement front to eliminate this risk.

I think what we end up needing is a capacity as well to demonstrate to the world and to our adversaries not only can we deliver a punch but we can take a punch, and that there is a national security value to investing in preparedness. And this is something we need to treat with a great deal of urgency.

The second imperative is the economic one. The one thing I think we can safely predict in the 21st Century is that disruption will be a constant, whether it is coming from manmade threats or probably the natural world, and that could range from the pandemic risks to the ground moving as was done in Chile and Haiti to the range of storms that hit Arkansas. And you, like Texas, I understand, never have a down season on disasters.

Finally, in a complex, interdependent, global society, systems go haywire from time to time. And so it is the communities, the companies, and the countries that are most capable of dealing with disruptive risk where people want to live, where they want to work and where people are going to want to invest.

[1] The prepared statement of Mr. Flynn appears in the appendix on page 33.

And an element of our competitiveness as a society will be our capacity to manage the risks that are foreseeable, and as your charts illustrate here, we could do a lot better job in the blue column than we are doing now in the green column.

It is a combination that we know every dollar we invest in mitigation is a return on investment because it is so expensive when things go wrong and the fact that we can enhance competition gives us the opening for a much more robust private-public partnership than we have had to date.

I raise in my testimony here a few areas where I think we have tools that we develop often for other reasons but could very well support this effort of advancing preparedness.

The most straightforward one is developing incentives for the private sector to be an effective partner and to bring the resources to bear. That would just be very costly and frankly wasteful having this in the public sector sitting in a warehouse somewhere waiting for the balloon to go up or for the storm to role in.

And the basic tools here are typically a form of subsidy or tax relief or regulatory relief if you have certain capabilities, and I provide a few examples in my testimony.

One would be things like backup micro-energy systems that could even be mobile where we task facilities that really need to have dependable electricity like a hospital or other major company with important communications. They have this. They can sell that capacity during peak periods to the grid so they can recover some of their costs. And if that is a mobile capability, that could potentially be contracted by FEMA to go to another region where the grid is going to be down for a period of time.

So we found that we are going to satisfy a company's need for continuity of service in this case with a backup capability that would be expensive to have in a separate column and by using incentives, whether it is subsidies or tax breaks or regulatory relief, I think we could go in those kinds of directions.

Another clear area is the insurance realm, and I talked through a few examples of this as well and cite one that comes from my Coast Guard background. But in trying to essentially change behavior, the value of insurance is one of providing essentially a cost-benefit for doing a long-term investment that may be hard to do on a short-term analysis; but also when insurers provide that benefit, they want to make sure people are acting and have the behaviors. So there is often an oversight mechanism there can be combined.

And clearly whether at the State level it is tax relief or insurance policy writing to get a bigger pool of involvements or sometimes the government coming in and playing as the ultimate re-insurer, those kinds of tools can also very much get us in the kinds of behaviors that we want.

As we saw very much in the story of Florida, such a compelling one between Hurricane Andrew when building standards were pretty slack and, therefore, we had mass devastation, and the same year when we had Hurricane Katrina and we saw three big storms come through, every building built after the new codes that were put in place—and insurers create incentives for that—those build-

ings are still standing. The lawn furniture is tossed around but the building is still there.

So we know how to do this. And in my view it is something that we need to step up to do. Again, I offer some examples in my written testimony.

Let me finish, though, with I think the final and perhaps the most important and timely imperative for raising this agenda, and that is the civic value of engaging in a national focus on preparedness.

At the end of the day, we cannot get there from here unless it is all hands. It has to be an open and inclusive process. Alex de Tocqueville, when he marched through this country in the early 19th Century, remarked on two characteristics that made America stand out for him.

One, our self-reliance, and second, our volunteerism, willingness to come together in times of public need.

One of the dilemmas we had, I think, in the Cold War era, and it sort of evolved as well in the professional protection area, is that we ended up with essentially a view by everyday citizens that public safety is an entitlement provided by a very centralized public service.

What we really need to move to is a world where it is all shared, and when we do that, remind yourself that we are not Democrats or Republicans, we are citizens who need to work together to recognize that public safety and preparedness is, in fact, a public civic good and something we should all strive to embrace.

With that, Mr. Chairman, I look forward to your questions.

Senator PRYOR. Thank you. On that I would say amen. That was good. I appreciate that.

Let me start, with just a general question, that may be a little bit of an odd way to start. I was looking at this chart a moment ago—where can we cut spending but at the same time improve our effectiveness. I have a few ideas but I would like to hear yours.

Are there ways that you are aware of just in our disaster preparedness regime that we have out there, by which we can actually cut spending but increase the effectiveness of what we are trying to do?

Does anybody want to take a stab at that? I think in Washington what happens is that when you see a problem, you want to throw money at it. That seems to have been the pattern in this town for a long time.

And I think certainly there is going to be a very significant Federal portion of disaster preparedness funding but I think there are also ways that we can just work smarter and get better results.

Mr. HARRALD. I will give it a shot. I think obviously we would all agree that the easiest place to cut costs is that green bar of just being better prepared and that is going to take some investment.

But the one place where I do think there is potential savings is looking at the Federal grants program. As I indicated in my scenario, that is one where a nuclear device in Washington, preparing massive population evacuation.

The people who are looking at the public health aspects or working on public health emergency preparedness grants coming from the Centers for Disease Control and Prevention (CDC). The hos-

pitals are working on hospital preparedness grants coming from the Department of Health and Human Services (DHHS). The metro is working on grants from the Department of Transportation. The Council of Governments is working on Urban Areas Security Initiative (UASI) grants.

When you get down to the local level not only do you get some duplication you get some competition. What vanishes is the local priorities, the local needs. So I think it is very difficult. These are stovepiped not only by funds but by agencies, by physical locations where the grants come from.

Senator PRYOR. Mr. Flynn.

Mr. FLYNN. If I might, in my opening comment, Mr. Chairman, one of our challenges is we are not putting side by side our other investments in national security viś-à-viś these sets of issues by comparison, again because I do think there is such a national security imperative for doing this.

And of course, the stovepipe that keeps all that review with even what we are spending on the homeland defense realm viś-à-viś what we might be spending to support States and locals or encouraging private, we do not have a means, it does not seem to me, to look at that very well.

Aside from the homeland defense budget in the Department of Defense, which was in the high 30 billions, we are now talking about how we reallocate some very limited resources here on our level. So that is the elephant in the room kind of problem.

But I agree very much with Dr. Harrald that the grant formulas are, the management of the grants process is a serious challenge, and to some extent it is the worst of all worlds from our Federal system of government.

What I have heard a lot from our States and locals is that even if they want to step out and do something that is pretty sensible, the mayor or governor says, hey, you try that Federal trough; they got some grant money slushing up there, before we make the investment.

Well, it is actually not a big slush of money and everybody is competing and the rules change every year, and everybody has to spend a lot of time diverting energy and effort chasing this elusive pot of gold.

We are in sort of one or two situations. Either we need to push self-sufficiency back into the State and local level and create some incentives for that or it has to be a bigger pot.

But we are in sort of this no-man's land right now, enough to make it that States and locals think that they can grab this where they are and they are not going to come out empty-handed and then we are not really getting the capacity that we want in a sustained way.

So I think still that the grants program is one that needs a hard looking at. Again it is spread like peanut butter across the Federal apparatus and that makes coherence not, things are pretty incoherent.

Senator PRYOR. Mr. Jordan.

Mr. JORDAN. To tell you the truth, beyond Ready.gov, I do not think that there are many programs specifically for business preparedness. I think that what we see is a lot of episodic and ad hoc

initiatives. Some of them are great and we see a number of things that are being done through the voluntary sector.

But to tell you the truth, there really is not a concerted emphasis on mitigation and resilience right now. In fact, Win Hallett, the head of the Mobile Chamber of Commerce—he is also the head of the Chamber Federation—was one of the first chambers to want to invest in a sustainability plan for Mobile Bay.

He said that we have a situation where up and down the Gulf Coast we know if we have to rebuild a bridge or a series of bridges we are talking millions and millions of dollars. Doing a better design, a better plan might cost two or three million dollars but it would save hundreds of millions down the road.

However, it is a lot harder to get funding for the design work than it is to do the post-disaster recovery work which your green bar illustrates so much. So I would say on the business preparedness side there is plenty of money being saved right now because it is not being spent.

Senator PRYOR. OK. Fair enough.

Dr. Harrald mentioned in his statement the need for a fundamental culture change or a new mind set in disaster thinking, a change from centralized planning and control to community-based, decentralized planning and control.

Can the other two witnesses, comment on that? Do you agree or disagree with that?

Mr. FLYNN. I could not agree more on that point. It is, I think, one of the core challenges, the move away from I would say almost an increasingly paternalistic and closed process for protecting the American people that assumes when things go wrong there are victims that have to be handled, and I think Administrator Fugate is straight on this.

These are survivors who can be assets. That is the important message to go. But Americans are not being treated that way. They are essentially told the professionals will take care of this, just go about your lives.

So the culture change, it is not just bottom up. It really is that we have to overcome kind of an ethos in these bureaucracies that I call sort of professional protectors. This is not business for amateurs. You folks stay out of here.

So it is important that we find ways to really attack the culture at the top as well as develop at the bottom.

One of the things I write about in my testimony and something I have been involved with closely is, and developed down in the southeast, is an initiative called the Community Regional Resilience Institute that grew out of work with three southern cities, Gulfport, Memphis, and Charleston.

And what they did there was to go work with the local players, the private, the nonprofits, the faith-based organizations, and the public officials and said what would make this community be able to cope well with a big event.

The goal is to identify those qualities that make a community essentially able to withstand and recover from these events. We know there are huge cost savings if they do that, with the objective of if we can identify those standards, we can measure those standards. And then we could rate communities like we do hotels on a

one through four stars. A four-star community could potentially get lower insurance, lower bond ratings because they are a much better and safer investment. You are going to get your money pay back if you get this right here.

Obviously it has something for the Chamber of Commerce to crow about because this is a place, if you are a company and you locate, that if things come through here, you are going to bounce back.

So the cost, we are talking about potentially something where that work could go out to maybe six or eight more cities. It is a grassroots effort. It is convening role. It is not a huge overhead and we get the insights.

We look at that and say is there something that we can share with the border other communities and create ideally incentives for communities to embrace those. So fundamentally I think the message that comes through with all of us here is that the expertise for this is really fundamentally often at the grassroots level.

The capability is ultimately always there. There are just not enough professionals to go around. And how we create that incentive of it not just being an expensive, top down national program to one that is more about how we convene, how we engage, how we capture the best practices and share it with others, that should be where the Federal Government is going and I do not see enough of that activity.

Mr. JORDAN. I would like to modify that just a little bit in that when a disaster happens, sometimes your local authorities and your local networks are traumatized and displaced.

So one of the challenges that you have is you are working with parish presidents or other local officials and their kid is in another State and the mom is in the hospital and they lost everything and they have a million other things going on and they need help too. So that sometimes what you want to do is have an external support system that is not necessarily commanding it but supporting it.

For example, with Chile right now, the head of the American Chamber in Chile was asking us to provide examples of what other Chambers of Commerce have done, and we had the head of the American Chamber in the Philippines and the head of the Manhattan Chamber already sending him information such as, this is what happened with us in this situation. These are the kind of things we are here to help.

And I could see kind of a network of, say, mayors or city managers or people from other parts of the country and where the Federal Government, of course, having visibility across the country can also be providing kind of a backstop too, especially when you have folks who have never been through a disaster and want to have kind of the lesson learned from somewhere else on this.

So I think that we are moving toward a distributed network idea where it is not so much a top down system or just a bottom up system, but both.

I think the other thing that happens right now is that the areas of responsibility for people are too nebulously defined.

For example, after the flood Cedar Rapids officials said they needed five billion dollars in housing assistance.

And I went and I was working with the local chamber, the city manager, the local authorities. I said, who is point on housing? They said, well, we are. No. Who is responsible for doing this?

It takes a little while to start to drill down to figuring out who is responsible for the different functions; and then how do you help the person that is in housing? Do you help coordinate them with the person who is responsible for environmental cleanup because debris removal, for example, is important.

Or with the lawyers, because sometimes in low income communities, they do not necessarily have clear title to the property. So actually getting the legal title squared away and the debris cleanup squared away is a prerequisite to getting the housing situation dealt with.

So one of the things that we need to do is sharpen up the roles and responsibilities and then also sharpen up how they connect to each other and then sharpen up how these on-the-ground systems connect with support systems outside. It is kind of like a three-level system that we are really looking at here.

Senator PRYOR. That is helpful.

Mr. Jordan, let me follow up with you on a different matter. You mentioned in your opening statement Project Impact. You just glazed over that a little bit. As I understand it, that was a FEMA initiative under James Lee Witt, and I am not sure about this but I think it was scrapped several years ago under the Bush Administration.

Tell me about the pros and cons of Project Impact and should FEMA be doing that again?

Mr. JORDAN. We have been talking about the importance of this mutual assistance network, the support system between the different groups and then between the government, the nonprofit and the private sector.

You know that famous saying that people always trot out that "after disasters is not the time you want to be exchanging business cards." I am sure you must have heard that one a million times. Well, it is true.

After a disaster, folk's bandwidth, gets sliced very thin and they are running around and they end up having to fall back on trusted relationships.

So one of the things we think that happened with Project Impact was that by 2000 there were 220 more or less communities that were involved in it, and what you had was, say, the head of the local chamber, the head of the utility, the head of the hospital, the head of the school system, the emergency responders, the mayor's office were all meeting together, maybe on a quarterly basis to compare notes, and work through different preparedness issues with each other. And then James Lee Witt convened all of the communities together so they could know each other.

So for example, one of the things that happens after a disaster is that everybody focuses on the direct impact area. So everyone is focusing on New Orleans after Hurricane Katrina. But we were getting phone calls from Texarkana and Little Rock for assistance too, and for a smaller community just dealing with a couple of hundred people is a big deal. They needed help with questions like:

"Who do I go to or who can help me to figure out how to deal with things like that?"

Project Impact was kind of a first at creating one of those distributed mutual assistance network models. And I think some kind of evolution of that is naturally going to happen. I mean, it is one of those things if it was not discovered yet it would be anyway. The question then is how do we aid and abet it as effectively as possible.

So to answer the rest of your question, obviously the cons of it is that it could be time intensive, more time intensive than what we currently have but I am a firm believer in an ounce of prevention being worth a pound of cure. So I mean, I think the cons can be overcome.

Senator PRYOR. Right. We have been reminded with Haiti and Chile about how devastating an earthquake would be. In this country I think psychologically we think the LA area or the West Coast, when we talk about major earthquakes, but we have a fault zone in the Boothill of Missouri and down into Arkansas, the New Madrid fault.

Just based on what you know, if that fault were to cause an earthquake today, what is your sense of how prepared we are to respond to that?

Mr. HARRALD. I have been working with FEMA for the last 2 years on this project so I have been going to a lot of State and local meetings and that brings out a lot of the issues that we have been talking about.

It is clearly something that exceeds the capacity of the existing response system and it is very unique in that it affects eight States, four Federal regions, the coordination aspect, the mutual aid aspects are daunting. The numbers are impressive. You will have very large populations that will move to areas that have the problems even just mentioned of going to areas where they need service, things are up and running but they do not have the capacity.

You will have to bring in large capacities into areas, the Memphis area and the eastern Arkansas area particularly. And this is going to be the site of the 2011 national level exercise which will be interesting to see.

But are we prepared? You will see a lot of unmet needs for quite a period of time, and it is a good example of the issue, I think, just to pick one example of that I think reinforces the point that we all are making.

If you look at collapsed building response and you look at the number of people who would be impacted and you run that out using the resources needed using FEMA's own standards for search and rescue, urban search and rescue teams, we have 20 search and rescue teams. You would need for immediate response 10 times that.

So is the answer training 10 times more national search and rescue teams or is the answer providing capabilities locally and maybe training volunteers for light rescue from people who are not trapped under collapsed multi-story buildings but are trapped under furniture or a beam or whatever else where crowbars and jacks and hand tools would work?

The next step up is the local volunteer fire departments will have some local rescue capability. The next step up is mutual aid from nearby counties and nearby States.

So the issue is with the core of expertise and the knowledge that we have, how do we leverage that to meet these needs?

There are many things that come out of that the people really are not looking at the ongoing public health needs. When you move a million people who have heart problems, diabetes problems, other issues and they have left their medications, and you are dealing with hundreds of thousands of people like this in shelters, who is providing that resource?

I think some of the preparedness work that FEMA has done outlines these issues. I do not know if we are at the point of really looking at creative ways to solve some of the problems. Tendency says this is really hard stuff so we are not going to deal with it.

Senator PRYOR. A lot of that area in northeast Arkansas and the Boothill of Missouri is rural. But you have two pretty good size urban centers there with Memphis and St. Louis.

Mr. HARRALD. Memphis would be the major impact area.

Senator PRYOR. Just one thing I would worry about are the bridges over the Mississippi River depending on how bad this thing is.

Mr. HARRALD. Well, the role of infrastructure in that large area, both the transportation infrastructure and the power industry, the point that Dr. Flynn was just talking about, about micro-energy is a potential solution because the long-term recovery of electrical power if you have an earthquake in that area in January or February it is one thing living in the streets in Haiti or even in the springtime or summer in Chile but not so much in February in northeast Arkansas.

So providing shelters to very large numbers of people is going to be a very difficult issue.

Mr. JORDAN. Two years ago our June workshop focused on the New Madrid fault and FEMA graciously organized it for us, organized the scenario for us. And the Memphis Chamber leadership participated and they have developed a new business group to promote the resilience of the region more effectively.

That being said, with every disaster there are always unanticipated consequences. So again one of the things that we think needs to happen ahead of time is to raise awareness through preparation, drills, training, public awareness, things like that.

We will support a number of different unintended things that came out as a result of the workshop. For example, with an earthquake you might have a situation where people are going to be more interested in sheltering in place.

We are figuring out crazy things like how do we get more helicopters into the region. Things like that.

So there are going to be a number of curve balls. Again it comes to this idea of a distributed network solution. We need to figure out who needs a big connected event that will work.

Senator PRYOR. Does the proximity of the Little Rock Air Force Base help?

Mr. JORDAN. Absolutely.

Senator PRYOR. And they have the lift capacity with the C–130s there.

Mr. JORDAN. Very much so.

Mr. FLYNN. I think that the trends overall are not good. We rely so heavily on State and local capability for managing these events, and States and locals are clearly under enormous stress. So their capacity to meet the day-to-day is challenged.

So meeting a catastrophic event obviously stresses that system because we are increasingly living in more urbanized settings and more dependent on aging infrastructure. When things go wrong, they go very wrong, not because of what mother nature did but largely because of how we are living.

So yes, I very much worry about our infrastructure which is already under strain by age, high use, and low maintenance increasingly and what its vulnerabilities are.

I will just point back to one of the areas where we are better prepared for earthquakes is Los Angeles. But just imagine sort of the nightmare scenario, there is an earthquake that essentially turns Terminal Island into essentially mush. It liquefies the island because it is all fill and it fills up the harbor.

Fifty percent of all the energy west of the Rockies Mountains comes from the port of Long Beach, the southern part of their port complex. Of that, right today there are about 7 days of refined fuels in the entire southern California economy.

So 28 million people basically depend upon 7 days of fuel that is available. That is with people having on average a half a tank of gas. That is what is at the filling stations and on-site with refineries.

So you disrupt that port, the crude cannot come in. The refineries go idle. You are literally out of gas and there is only one pipeline that connects the southern California region to the national pipe grid and the feed fuel to Phoenix.

So the challenges are enormous when we think about these events because we are so dependent on infrastructure and particularly in these urbanized areas. We are not doing as much as we should on mapping out these risks and thinking about contingencies.

That seems like an impossible scenario here. But there are basic things clearly that we can do. We need some salvage capability to open a harbor quickly. We need to know how to do that and that is civil infrastructure largely.

But there are no salvage ships on the West Coast. The nearest one is in Pearl Harbor. If the Navy wanted to get one today, they would probably have to get it from Singapore or from Pusan, Korea, to begin the process of moving something out of the way.

So those kinds of problems are still there, and of course, that scenario could be a terrorist one as well and again that can bring you back to both the national security issue as well as the natural hazard issue that create an incentive for investing more on not just preventing but being able to respond and recover, and then that has deterrent value.

So natural disasters we cannot prevent. So there is a lot of opportunity to think about this differently. We are still pretty com-

partmentalized, when we are looking at dollars and how we can approach it.

Senator PRYOR. Well, we could go on and on about this. I have several pages of questions and probably what I will do is submit a few to you all in writing along with some of the other senators who could not be here today.

I really want to thank you all for being here. I am just glad that somebody is paying attention to all of this, and I am hoping that your work and the work of many others around the country will lead to better preparedness so that we can change the green line on that chart and change some lines on a lot of other charts as well.

Anyway, thank you all for being here, and what we will do is leave the record open for 15 days. That is our custom here in the Subcommittee. Leave it open for 15 days and we may get you some more questions in writing and we would appreciate your response on those.

And like I said, some of those may come from other Subcommittee Members as well. Thank you all for being here and we will adjourn.

[Whereupon, at 2:02 p.m., the Subcommittee was adjourned.]

APPENDIX

Hearing before the Ad Hoc Subcommittee on State, Local, and Private Sector Preparedness and Integration
"The Next Big Disaster: Is the Private Sector Prepared?"
March 4, 2010
Senator Pryor
Opening Statement

I want to welcome our panelists, Ranking Member Ensign, and fellow Subcommittee members, to today's hearing on new approaches to better prepare America for disasters. I appreciate your taking the time to be here today and call this hearing to order.

The recent earthquakes in Haiti and Chile are a grim reminder of not only the immediate human impact of disasters but also the long term affect on basic services, job growth, and economic development. It is fair to ask how much better prepared we are for the next big disaster on US soil -- how resilient is America and our economy to the natural disasters we know will happen and the terrorist attacks we fear will happen?

At a time when the US deficit is $1.5 trillion per year and Federal spending for disasters *after they occur* frequently runs into the billions of dollars, it is also fair to re-evaluate whether our strategy for and billions spent on disaster preparation represents best practice and is cost-effective. We should ask whether we can spend less and get more "bang for the buck"? What new thinking is there about helping communities and the private sector prepare to respond to disasters and bounce back after a disaster occurs?

It is established fact that economic recovery after a disaster depends on how well we are prepared before a disaster occurs. Studies show that a dollar in disaster preparation saves four dollars in response. Every dollar spent in response activities is one dollar less in community improvements. Every corporate dollar donated for relief efforts is one dollar less in business investments. For every small business that is unable to recover from an event, jobs are lost and economic recovery is damaged.

The cost of response and recovery versus preparation is illustrated by the chart you see.

This shows the significant growth of disaster spending between the 1990's and the ten years leading up to today. Not shown by the chart is that the number of presidentially-declared US disasters have increased every decade. President Obama has already declared nine major disasters 2010 one of which occurred in Arkansas.

This chart also does not illustrate the billions of dollars spent on post-disaster assistance by private and non-profits sectors on disaster recovery. After Katrina, 254 different companies made contributions valued at $1 million or more. Wal-Mart, which is based in my home state, provided over $1 million in donations and in-kind contributions for Haiti relief efforts and collected an additional $3 million from its associates and customers.

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It makes dollars and sense to better prepare for the unexpected and create resilient infrastructure and communities. We have taken important steps to improve preparedness activities across the country. The Federal government has developed various strategies and guidelines to outline what our efforts should accomplish. Each year FEMA provides grant funding so that state and local governments can improve homeland security activities and all-hazard mitigation. Despite our efforts, we still spend billions in recovery, and I am concerned as to whether or not our preparedness activities are adequate.

Incorporating the private sector into emergency preparedness and response is a crucial first step to improving our resilience to disasters. The private sector employs most individuals and owns most of the country's critical infrastructure. The Department of Homeland Security and FEMA has been instructed to incorporate the private sector in its activities, but we need to focus on really developing public-private partnerships to address preparedness challenges.

Our hearing today will air new ideas to preparing for and responding to national catastrophes while better integrating the private sector in government preparedness activities. It is my hope that we will discover emerging themes in preparedness activities, and the ideas we discuss today will assist this Subcommittee to really improve the way the government prepares for catastrophic events. Our witnesses represent the diverse interests of those wishing to improve the emergency community, and I look forward to hearing their thoughts.

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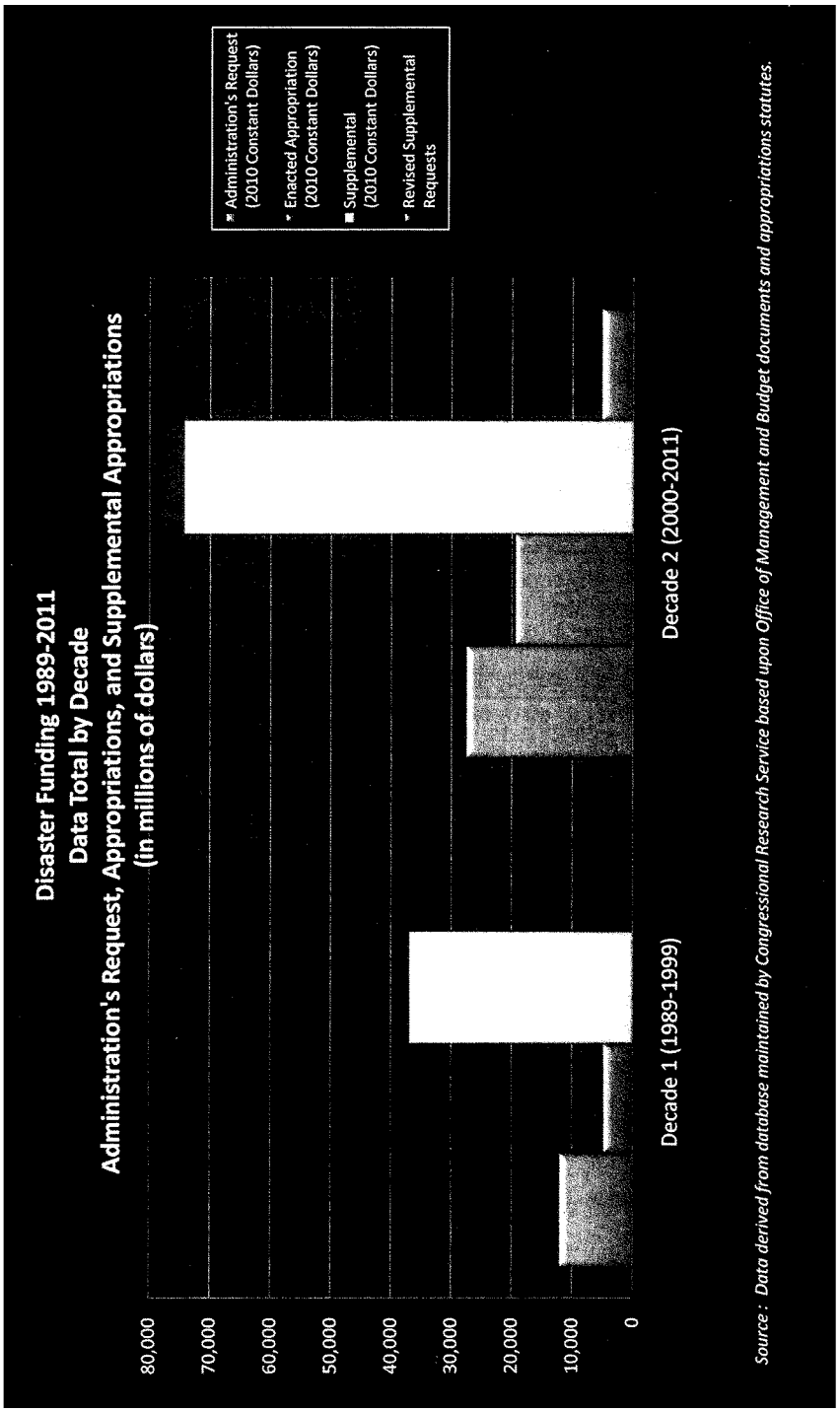
Disaster Funding 1989-2011
Data Total by Decade
Administration's Request, Appropriations, and Supplemental Appropriations
(in millions of dollars)
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Decade 1 (1989-1999)
Decade 2 (2000-2011)
Administration's Request (2010 Constant Dollars)
Enacted Appropriation (2010 Constant Dollars)
Supplemental (2010 Constant Dollars)
Revised Supplemental Requests
Source : Data derived from database maintained by Congressional Research Service based upon Office of Management and Budget documents and appropriations statutes.

BEFORE THE AD HOC SUBCOMMITTEE ON STATE, LOCAL, AND PRIVATE SECTOR PREPAREDNESS AND INTEGRATION OF THE UNITED STATES SENATE
"The Next Big Disaster: Is the Private Sector Prepared?"

Testimony of Stephen C. Jordan
Executive Director, Business Civic Leadership Center
A 501c-3 affiliate of the U.S. Chamber of Commerce

March 4, 2010 Testimony

Thank you, Chairman Pryor, Ranking Member Ensign, and members of the subcommittee, it's a pleasure to be here with you today.

I appreciate this opportunity to discuss our current national preparedness efforts, and to share some of the lessons learned and ideas that have surfaced in our work to promote preparedness and community resilience.

For the past ten years, the Business Civic Leadership Center (BCLC), a 501c3 affiliate of the US Chamber of Commerce, has been working with companies to improve the way disasters are managed in the United States and around the world. After the terrorist attacks on 9/11, the Southeast Asian tsunami in 2004, Hurricane Katrina in 2005, the Southern California wildfires, Midwest flooding, Hurricanes Ike and Gustav, and other disasters over the past ten years, we have witnessed companies and chambers of commerce step up to assist disaster-impacted communities time and time again.

In response to these disasters, BCLC has developed a number of capabilities, including:

(a) The Corporate Aid Tracker
(b) A helpline for businesses and chambers of commerce to learn how to get help or give help
(c) Coordination Systems – provide situation reports to the business community
(d) Technical Assistance and Damage Assessment Teams
(e) Programs designed to provide support systems for businesses as they recover, and to help people identify available jobs in disaster impacted areas

We have memorandums of understanding with FEMA and the Small Business Administration, and close working relationships with many of the leading voluntary organizations active in disaster response including NVOAD, the American Red Cross, and the Salvation Army.

BCLC's Disaster Assistance and Recovery program is supported by some of the leading companies in the country including Office Depot, UPS, FedEx, IBM, Microsoft, Allstate, Abbott, Lockheed Martin, and Walt Disney, and many others as a public service.

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Why Does It Matter If the Private Sector Is Prepared?

First of all, the costs of disasters are escalating. Secondly, no single entity or agency can solve every problem that disasters cause, and third, preparedness delivers many business benefits.

Without preparedness, the opportunity for a community to come back to prior strength is almost zero. Community restoration is nearly impossible without assistance to small businesses. Small businesses are the primary agent for job creation in the United States, and jobs are one of the primary reasons that people choose to live where they do.

Issues That Should Be Addressed Before the Next Big Disaster

BCLC's experiences over the past decade have uncovered a number of issues that should be addressed going forward. These include:

(1) Business Preparedness and Capital Access
(2) Infrastructure Upgrades
(3) Mutual Assistance, and
(4) Improved Information and Coordination

Strategies for Consideration

In light of these experiences, we believe the country needs to move away from an ad hoc reactive approach to disasters that rewards urgent needs and punishes prudent investment, and move toward a pro-active strategy that invests in continuously improving our infrastructure, community design, and business resilience through the following strategies:

(1) We need to do a much better job of mapping and benchmarking who is doing what, where, and how.

Companies are constantly asking us about the competencies of various nonprofits, and exactly what geographies they are covering. Companies also want to know what development agencies are funding, what other companies are doing, and how all of this plays into what the political authorities want to do. Local and state chambers want to know what municipalities and states in other parts of the country are doing.

This is why BCLC commissioned a report to identify the "Top Ten Policies that States Need to Recover from Disasters." With the help of Daniel Alesch, Professor Emeritus at the University of Wisconsin Green-Bay, we determined that the policies are as follows:

1. Reduce exposure to extreme events
2. Reduce vulnerability to extreme events
3. Build resistance and resiliency into the community
4. Create and maintain capable, effective emergency response systems
5. Establish systems to protect people in harm's way
6. Ensure the availability of adequate capital for rebuilding and recovery
7. Develop disaster recovery strategies and plans in concert with local governments and the private sector

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8. Provide for the continuity of local government operations following a disaster
9. Repair or rebuild infrastructure and accelerate programmed infrastructure projects in affected areas
10. Work with local government and the private sector to facilitate economic recovery

(2) We need to invest in continuous infrastructure design improvement and system integration.

Disasters magnify everything. New Orleans had serious dysfunctions before Katrina, just as we know that Detroit does now. We know that southern Florida has issues that make some of its population particularly vulnerable if a hurricane were to strike.

BCLC has organized enough scenario workshops that it has become pretty clear that almost every part of the country has its vulnerabilities and needs critical infrastructure systems upgrades. Other countries have them too. China, Japan, and Germany are increasingly investing in infrastructure systems – broadband, water, sewage, transportation, energy and the like as integrated elements of their future development. Is there any doubt that this will make them safer and more resilient in the long-term and contribute to their future prosperity?

While this approach would be helpful across the country, there are six regions where better design and systems integration would be particularly helpful in light of recent events and disaster probabilities:

(1) The Gulf Coast
(2) Southern Florida
(3) Southern California and the desert Southwest
(4) The flood zone from Fargo to St. Louis
(5) The New Madrid fault line
(6) The Great Lakes

(3) We need to strengthen our Mutual Assistance Network capabilities.

No one agency or sector can develop, implement, or address community economic vulnerability on their own. When organizations and individuals enhance their level of readiness, they are then able to work strategically to address the systems-wide issues that will also have serious impacts to their lives and viability.

Such an approach begins with building the public-private partnership as a group of stakeholders in key municipalities and linking them together. This will help communities support areas that have been primarily impacted, help secondarily impacted communities manage diasporas, and create support systems across the country to help relieve the stresses and sudden burdens.

We need to explore ways to reward disaster preparedness, including increased capital access.

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If one of the core issues for business preparedness is cost, and one of the core issues for business recovery is capital, could there be a way to link the two so that businesses are incentivized to prepare before a disaster, and therefore reduce their capital requirements after a disaster?

One intriguing idea that has been surfaced by a number of local chambers is to create an emergency loan guarantee program that small businesses can pre-qualify for by implementing various preparedness steps such as those outlined in the Institute for Building and Housing Safety's tool kit for small businesses. In essence, if businesses invested in such things as disaster-proofing their plant, property, and equipment, maintaining their records in a remote location, investing in adequate insurance, and developing employee assistance procedures, they would be guaranteed an emergency line of credit through their existing bank.

If we want businesses to contribute their core competencies we need to set up technical assistance systems now.

I would be a millionaire if I had $10 for every time government agencies and NGOs asked companies for cash and not products or services. And companies respond to this appeal, according to BCLC records. On average, 75% of their contributions to disasters are cash.

But the truth is that this approach leaves on the table some of the most valuable contributions that companies can make. Logistics companies are experts at moving goods from point A to point B. If CNN is reporting that medical supplies are bottlenecked at the airport and not reaching the field, why not ask UPS or FedEx to donate a logistics team for a week or two to sort out the traffic problems? If the airport is damaged, why not ask one of the 53 airport engineering firms in the U.S. to send a team of volunteers to study how to fix it as effectively as possible?

Companies tell us that they often get involved in humanitarian issues because their employees want them to. If we had a "BusinessCorps" similar in concept to the Peace Corps or Americorps, to deploy employees to solve problems within their competencies, it could go a long way toward addressing design, training, and technical assistance challenges. Groups like SCORE, Executives without Borders, and others are moving down this path. We need to strengthen this functionality to accelerate recovery, but it cannot happen in the midst of a crisis.

The Future

Resiliency should be a part of a broader framework of planning for the competitiveness of a region. Thinking and planning ahead to make communities sustainable, resilient, and competitive in a 21st century marketplace is the key to controlling our own destiny when it comes to disasters.

Our goal in the future, should not just be to mitigate the impact of a future catastrophe, but to build up the capacity of the community, and by extension, the businesses in that community to flourish. This means companies are moving from enterprise continuity to community resilience, from silos to systems, and from local participation to regional engagement.

But disaster preparedness and community resilience are not just up to the business community. They depend on how well all of our institutions are able to work together. Our success will depend on how well we adapt – and continue to adapt -- not just as individuals or organizations, or institutions, but as a society.

Thank you

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1980-2006 Billion Dollar U.S. Weather Disasters

(Damage Amounts in Billions of Dollars and Costs Normalized to 2002 Dollars Using GNP Inflation / Wealth Index)

1980	Drought / Heat Wave e $48.4 ~10,000 Deaths				
1983	Hurricane Alicia $5.9 21 Deaths	Florida Freeze ~ $4.0 No Deaths	Gulf Storms / Flooding ~ $2.2 ~ 50 Deaths	W Storms / Flooding ~ $2.2 ~ 45 Deaths	
1985	Florida Freeze ~ $2.2 No Deaths	Hurricane Elena $2.4 4 Deaths	Hurricane Juan $2.8 63 Deaths		
1986	Drought / Heat Wave $2.3 ~100 Deaths				
1988	Drought / Heat Wave e $61.6 ~7,500 Deaths				
1989	Hurricane Hugo > $13.9 86 Deaths	N Plains Drought > $1.5 No Deaths			
1990	S Plains Flooding > $1.4 13 Deaths				
1991	Hurricane Bob $2.1 18 Deaths	Oakland CA Firestorm ~ $3.5 25 Deaths			
1992	Hurricane Andrew ~ $35.6 61 Deaths	Hurricane Iniki ~ $2.4 7 Deaths	Nor'easter $2.0 19 Deaths		
1993	E Storm / Blizzard $7.0 ~ 270 Deaths	SE Drought / Heat Wave ~ $1.3 > 16 Deaths	Midwest Flooding ~ $26.7 48 Deaths	CA Wildfires ~ $1.3 4 Deaths	
1994	SE Ice Storm ~ $3.7 9 Deaths	Tropical Storm Alberto ~ $1.2 32 Deaths	Texas Flooding ~ $1.2 19 Deaths	W Fire Season ~ $1.2 No Deaths	
1995	CA Flooding > $3.6 27 Deaths	SE / SW Severe Wx $6.8 32 Deaths	Hurricane Marilyn e $2.5 13 Deaths	Hurricane Opal > $3.6 27 Deaths	
1996	Blizzard / Flooding ~ $3.5 187 Deaths	Pacific NW Flooding ~ $1.2 9 Deaths	S Plains Drought ~ $6.0 No Deaths	Hurricane Fran > $5.8 37 Deaths	
1997	Midwest Flood / Tornadoes e $1.1 67 Deaths	N Plains Flooding ~ $4.1 11 Deaths	W Coast Flooding ~ $3.4 36 Deaths		
1998	New England Ice Storm > $1.5 16 Deaths	SE Severe Wx > $1.1 132 Deaths	MN Severe Storms / Hail > $1.7 1 Death	S Drought / Heat Wave $8.3 > 200 Deaths	Hurricane Bonnie ~ $1.1 3 Deaths
	Hurricane Georges e $6.5 16 Deaths	Texas Flooding ~ $1.1 31 Deaths			
1999	AR - TN Tornadoes ~ $1.4 17 Deaths	OK - KS Tornadoes > $1.7 55 Deaths	E Drought / Heat Wave > $1.1 e 502 Deaths	Hurricane Floyd e > $6.5 77 Deaths	
2000	Drought / Heat Wave e > $4.2 ~ 140 Deaths	Western Fires > $2.1 No Deaths			
2001	Tropical Storm Allison e ~ $5.1 > 43 Deaths	Midwest / OH Valley Hail / Tornadoes > $1.9 > 3 Deaths			
2002	30-State Drought e > $10.0 No Deaths	Western Fires > $2.0 ~21 Deaths			
2003	Severe Wx / Hail > $1.6 3 Deaths	Severe Wx / Tornadoes > $3.4 51 Deaths	Hurricane Isabel ~ $5.0 55 Deaths	S California Wildfires > $2.5 22 Deaths	
2004	Hurricane Charley e ~ $15.0 35 Deaths	Hurricane Frances e ~ $9.0 48 Deaths	Hurricane Ivan e > $14.0 57 Deaths	Hurricane Jeanne e > $7.0 28 Deaths	
2005	Hurricane Dennis e > $2.0 > 15 Deaths	Hurricane Katrina e ~ $125.0 > 1833 Deaths	Hurricane Rita e ~ $16.0 119 Deaths	Midwest Drought e > $1.0 No Deaths	Hurricne Wilma e ~ $16.0 35 Deaths
2006	Numerous Wildfires > $1.0 28 Deaths	Widespread Drought e > $6.0 No Deaths	Severe Storms Tornadoes e > $1.0 10 Deaths		

Source:
NOAA's National Climatic Data Center
Asheville, NC 28801-5001
www.ncdc.noaa.gov/oa/reports/billionz.html

e = estimated > = greater than/at least ~ = approximately/about

< 5	5-20	20-30	30-40	> 40

Amounts in Billions of Dollars

New Paradigms for Private Sector Preparedness

Statement of

John R. Harrald, Ph.D.
Research Professor, Center for Technology, Security and Policy
Virginia Polytechnic Institute and State University
and
Co-Director and Professor Emeritus, Institute for Crisis, Disaster, and Risk Management
The George Washington University

and

Chair, Disasters Roundtable
The National Academies

before the

Subcommittee on State, Local, and Private Sector Preparedness and Integration
Committee on Homeland Security and Governmental Affairs
U.S. Senate

March 4, 2010

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Good morning, Mr Chairman and members of the Committee.

My name is John Harrald and I am with the Virginia Tech Center for Technology, Security and Policy and am the Emeritus Co-Director of the George Washington University Institute for Crisis, Disaster, and Risk Management. I am currently serving as the Chairman of the National Academies National Research Council's Disasters Roundtable. The National Research Council is the operating arm of the National Academy of Sciences, National Academy of Engineering, and the Institute of Medicine of the National Academies, chartered by Congress in 1863 to advise the government on matters of science and technology. I am also a Member of the Board of Scientific Counselors for the Center for Disease Control and Prevention's Office of Public Health Preparedness and Emergency Response and I am the Executive Editor of the Journal of Homeland Security and Emergency Management. The conclusions and recommendations that I am presenting today are my own and to not necessarily represent those of any of these organizations.

The preliminary title of this hearing, "New Paradigms for Private Sector Preparedness" is appropriate and timely. A paradigm shift is a fundamental change in how we perceive the world, what we believe, and in the ways we act. In my opinion, we are at a point in time where such a shift in our policies and actions concerning extreme events is both necessary and possible. This paradigm shift will fundamentally effect how both the private and public sectors react strategically and operationally to these events.

As the images of Hurricane Katrina, Hurricane Andrew and the 9/11 attacks recede, and the issues identified seem less urgent, recent catastrophic earthquakes in Haiti and Chile have once again reminded us that our world view must include extreme events and their impacts. We know that the United States is particularly vulnerable due to its large populations living and working in high risk areas: seismic zones, coastal and riverine flood plains, and urban terrorist targets. Catastrophic events can and will happen here. Are we resilient enough to ensure that our nation and society can recover and thrive after such an event?

Understanding and reacting to risk of low probability/high consequence events is a challenge for any society. It is difficult to envision that which has not yet happened. In our current paradigm, many view extreme events as such rare exceptions to the normal that preparing for them is a

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waste of time and money and that if an event should occur the government, the Red Cross, and others should be able to meet their needs. U,S. response doctrines imply that disasters produce victims that must depend upon the assistance provided by those trained and equipped to do so and, reacting to past events, we have created larger and more capable government-centric response systems. This system has worked well for large events such as the 9/11 attacks and the 1984 Florida hurricanes, but has failed during catastrophic events such as Hurricane Andrew and Hurricane Katrina with devastating social and economic impacts.

How can this paradigm shift to one that will work when we need it most? I believe that there are three areas where change is occurring now, and that with investment and leadership will lead to a fundamental paradigm shift. The private sector plays a critical and central role in each of these elements. The three areas are:

- Building and sustaining community resilience.
- Creating a collaborative and enabling preparedness and response culture.
- Using science and technology to replace reactive doctrine with proactive, agile systems.

Community resilience is the key to preparedness. Relationships and resources that exist at the local level are primary predictors of the ability to absorb, adapt, survive and thrive when faced with extreme events. We have historically focused on promoting individual preparedness, supporting business recovery, and ensuring government continuity of operations. Resilience, however, requires the building of collaborative relationships that will enable communities and businesses to better absorb, adapt, survive, and thrive when confronted with extreme events. Significant national steps have been taken to make the development of community and national resilience a national strategic objective. A Resilience Directorate has been established within the White House National Security Council. In its Quadrennial Homeland Security Review, the US Department of Homeland Security (DHS) has adopted the objective that the United States be "A Nation that is resilient to all threats and hazards". The Department of Health and Human Services (DHHS) emphasizes community resilience in the recently released National Health Security Strategy for the United States. The recently released DHS/HUD National Disaster Recovery Framework states that, for successful recovery to occur, communities should adopt sustainability and resilience strategies.

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Disaster management culture is changing. Current preparedness, response, and recovery doctrine based on government centric control will be replaced by a culture that enables collaboration. Most people impacted by a disaster are uninjured, healthy, and willing and able to help those more seriously impacted and to rebuild their community. As stated by FEMA Administrator Craig Fugate, these willing and able citizens should be thought of as resources, not victims. Catastrophic events will exceed the capability and resources available to the national, state and local governments. The objective is not to create government organizations capable of doing things for people; we must be able to mobilize national resources, public and private, to work with citizens to help restore social, physical, and economic systems. The model envisioned in the National Response Framework will not scale up. The solution is not increasing government resources or tasking DOD, although some level of both will be required. The solution is in partnerships that creatively leverage the resources we have in both the public and private sectors.

Science and Technology are providing us with new knowledge, capability and opportunities. We are witnessing a very significant shift in how science and technology are used in disaster response. Physical science better informs us of our risk exposure and helps us develop credible planning scenarios. Social scientists have introduced the concept of social vulnerability into the preparedness, response, and recovery doctrine and have studied how people behave during the crisis and recovery periods. Preparedness must be based on what we have learned from science, not on disaster myths and fears. We are rapidly evolving from centralized, rigid, closed government systems to decentralized, agile, open, private sector owned and operated systems. The challenges of the future are three fold and will include: (1) recognizing the new capabilities technology is providing rather than being constrained by narrowly designed systems, (2) creating ways to capture and integrate the flood of information from unanticipated sources rather than relying on pre-existing formal lines of communication, and (3) creating the relationships and networks needed for each event rather than living with artificial organizational and physical constraints.

Already in 2010, there are two vivid disasters that exemplified the use of emerging technology: the earthquakes in Haiti and in Chile. In Haiti, after the January earthquake that measured 7.0 on the Richter scale, SOUTHCOM established an open web blog to coordinate activities with the

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NGO community resulting in critical military/civilian collaboration. Thousands of structural engineers around the world assisted in assessing damaged buildings using web based satellite imagery; and people checked on and were re-united with relatives using mobile phone applications designed during the Haiti crisis. About a month later, there was a larger earthquake in Chile, and thousands of people evacuated vulnerable areas in Hawaii and around the Pacific Basin in response to an accurate and timely tsunami warning system; and international aid organizations monitor the evolving situation by following Ustream and other web sources. As in these cases, we expect to see in future events that cell phones and mobile technology will play a key role in alerts and warnings and in social networking during response and recovery. Collaborative and display technology will create virtual operations centers, allowing open and agile collaboration between public and private organizations and individual citizens. The results of this increased use of technology is impressive. Just compare our awareness of the situation on the ground in Haiti and the rapid mobilization of appropriate resources with the confusion that followed the Exxon Valdez oil spill, the Loma Prieta earthquake, Hurricane Andrew, or Hurricane Katrina

The Boards and Committees of the National Academies have analyzed the research available addressing many of these issues. For example, current committee efforts are examining public private partnerships and the use of mobile devices in alerting and warning systems. The Academies will soon undertake a study on increasing national resilience to hazards and disasters. I have attached a list of study and workshop reports published by the Academies during the last five years to my remarks.

In conclusion I would like to emphasize that the private sector involvement and leadership is key in all three paradigm changing trends I have described: building resilience, creating a collaborative culture, and creating new capabilities through technology. The policy implications for the federal government are, I believe, in three primary areas. The first is implementing policies and programs that enable local and regional capabilities to set their priorities and use their local resources and knowledge. The second is to ensure that federal grant programs that are intended to create resilience are adequately funded and coordinated. The stovepiping of current grants by agencies and programs can produce conflicting government mandated priorities that lead to competition for resources and discourage collaboration at the local level. Finally, the

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creation of trusted relationships is the basis of any collaborative network. This requires open and frequent information sharing---which conflicts with the cultural values of both the public and private sectors. Managers in both the private and public sectors are trained in and rewarded for the withholding and controlling of information. In my opinion, the trusted relationships needed to break down these barriers are most likely to develop at the local and regional level.

Thank you for the opportunity to testify today. I look forward to your questions.

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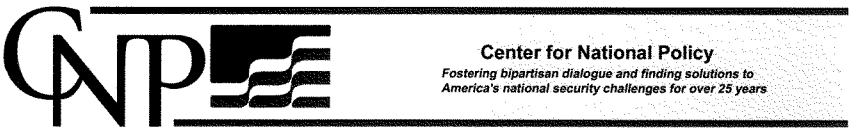

"Building a More Resilient Nation by Strengthening Private-Public Partnerships"

Written Testimony to support

a hearing of the

Ad Hoc Subcommittee on State, Local and Private Sector Preparedness and Integration

of the

Homeland Security and Governmental Committee
United States Senate

on

"The Next Big Disaster: Is the Private Sector Prepared?"

by

Stephen E. Flynn, Ph.D.
President
Center for National Policy
sflynn@cnponline.org

Dirksen Senate Office Building – Room 342
Washington, D.C.

1:00 p.m..
March 4, 2010

"Building a More Resilient Nation by Strengthening Private-Public Partnerships"

by

Dr. Stephen E. Flynn
President, Center for National Policy

Chairman Pryor, Ranking Member Ensign, and distinguished Senators of the Ad Hoc Subcommittee on State, Local, and Private Sector Preparedness and Integration. I am honored to have this opportunity to testify before you on better integrating the private sector into government disaster preparedness efforts at all levels.

This subcommittee has jurisdiction over the nation's most important—and sadly most neglected—homeland security asset. If it was possible to take a satellite image of the United States that could highlight all the national capabilities to support the homeland security mission, we would see two things. First, there are a lot of potential assets. Second, the overwhelming majority of those capabilities are non-federal. When it comes to preventing, withstanding, rapidly recovering from, and adapting to man-made and natural disasters, it is individuals and families, communities, non-profit, faith-based, and volunteer organizations such as the Red Cross and United Way, and the private sector that are on the frontlines. There should be no higher priority than engaging and integrating these capabilities into our national effort to build a safer, more secure, and resilient America.

The simple fact is that there never will be enough professionals at the right place at the right time when terrorists or disasters strike. Intelligence and technologies are fallible and Mother Nature cannot be deterred. While many might wish it were otherwise, when it comes to detecting and intercepting terrorist activities or dealing with a catastrophic natural event, the first preventers and first responders will almost always be civilians who happen to be around when trouble is unfolding.

We need look no further than the tragic events of September 11, 2001 to discover where the frontlines in the war on terrorism often lie. One of the most overlooked lessons of that day is that the only counterterrorism action successfully taken against al Qaeda's attack was done not by the Department of Defense, FBI, CIA, or other U.S. government agencies, but by the passengers aboard United Airlines Flight 93. By charging the cockpit and preventing al Qaeda from striking the U.S. Capitol or the White House, everyday people ended up protecting the very officials who have the constitutional obligation "to provide for the common defense." In retrospect, it is outrageous that men and women flying aboard United 93 had to learn via their cell phones in calls to their friends and loved-ones the threat information that many inside the U.S. government knew but failed to share with each other—that al Qaeda was contemplating using airliners as cruise missiles. There is no way that we will ever know what the passengers aboard the first three planes that struck the twin towers and the Pentagon would have done if they had been provided that threat information. What we do know is that the unofficial protocol for airline passengers up until 9/11 was to stay quietly in their seats and wait until the plane had landed for the professionals to negotiate with the hijackers. In other

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words, the people aboard American Airlines Flight 11, United Airlines Flight 175, and American Airlines Flight 77 were all deprived of the opportunity to take the kinds of measures the people aboard United 93 took to protect both themselves and al Qaeda's intended targets—because the U.S. government never shared this threat information with the flying public.

Strengthening individual, community and private sector preparedness has not just practical value, but strategic value as well. America's current and future adversaries will find conducting terrorist attacks on U.S. soil to be attractive as long as they can be confident that these attacks will generate a big bang for their buck. However, if an adversary believes that Americans are well-prepared to prevent, withstand, and rapidly recover from acts of terrorism, the appeal of engaging in such acts would be diminished. In other words, there is deterrent value to ensuring that the United States cannot only deliver a punch, but that it can take a punch. A lack of resilience that results in unnecessary loss of life, destruction of property, and disruption of key networks and functions is reckless. It is also a strategic vulnerability in an era when our adversaries are far more likely to wage their battles in the civil and economic space, than the conventional military space.

Beyond its value in advancing the nation's homeland security and national security, boosting resilience also promises to provide a very positive return on investment. On a micro scale, it is far more cost effective to make an upfront investment in safeguards that mitigate risk and consequences, than to pay the price for response and recovery after a foreseeable hazard manifests itself. One need look no further than the recent devastation and tremendous loss of life wrought by the earthquake in Haiti and the comparatively much smaller toll experienced by Chile in the face of a far more powerful earthquake.

From a macro standpoint, a society's level of resilience will increasingly be a source of its global competitiveness. The one thing that we can predict with confidence is that the 21st Century will be marked by major disruptions arising from man-made and natural threats. In some cases these disruptions will be inflicted intentionally as with acts of terrorism. But in most instances the disruptions will arise from the natural world in the form of pandemics, powerful storms, and other disaster. In addition, as the world witnessed with the near meltdown of global financial markets in the fall of 2008, with increasingly complex and interdependent networks supporting modern global economic activity, problems in one part of the system can quickly have cascading consequences across the entire system. The countries, communities, and companies that are most able to manage these risks and bounce back quickly will be the places where people will want to live, work, and invest. Those that are so brittle that they break instead of bend in the face of familiar and emerging risks will become the national and global backwaters.

The twin realities that resilience can both provide a positive return on investment and be a source of competitiveness translates into a ripe opportunity for aligning the interests of the private sector with the public sector. What is required is a truly collaborative approach that taps extensive private sector capabilities and assets by encouraging the private sector to support local, state, and regional emergency preparedness initiatives.

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One way to encourage greater levels of private sector engagement in preparedness to provide financial incentives in the form of tax breaks, subsidies, or regulatory relief for companies that agree up front to build and maintain capacities that the government could call upon during an emergency. A good candidate for this would be mobile satellite transmission trucks used in the media business. Most news organizations rely on independent camera crews who own vehicles with a full complement of audio-video and communications capabilities. These crews could enter into a contract where they agree to support emergency command posts in the aftermath of a disaster. A government contract would help to reduce their overhead cost which would be attractive to them. It would also reduce the need for smaller communities to purchase, maintain, and train people to operate these kinds of units.

Another innovative approach to partnership would be for local communities to enter into agreements with major retailers to serve as emergency shelters. Residents are very familiar with the locations of their local Wal-Mart, Target, Home Depot, or Loews. These stores have large parking-lots that can host many people in temporary outdoor shelters. They also maintain in stock many of the supplies in greatest demand during an emergency. The parent companies have sophisticated logistics systems that can quickly reroute additional supplies to stores within a disaster zone. The federal government could enter into a cost-sharing arrangements with state and local governments to subsidize large retailers to store an extra stock of items like generators, batteries, diapers, baby formula, first aid supplies, and bottled water. The retailers would be in a position to routinely rotate these items through their store's inventory before their expiration date. This would reduce the overhead cost making it a far less expensive approach than the traditional one where emergency agencies purchased these items outright and placed them into storage at conventional shelters like public schools. Such a program could be quickly deployed around the country if the federal government provided the funding and exercised the leadership.

There is a well-established model for this kind of initiative. The Department of Defense has long relied on commercial airliners to lend them their passenger and cargo planes when the military needs them. Under the Civil Reserve Air Fleet program, or "CRAF," U.S. airlines pledge some of their aircraft and flight crews to support the Pentagon when its airlift requirements outpace what its military aircraft can provide. This includes quickly converting civilian 767 into air ambulances by taking out the passenger seats and replacing them with litters. The airlines store conversion kits in their hangers so that their plane can to quickly retrofitted to help evacuate casualties from war zones. The way the military provides an incentive for airlines to make this commitment is they award them sizeable peacetime airlift contracts for routine flights for servicemen and military cargos.

Another potential way to encourage private investment in something that addresses a public vulnerability is for government to actively support "distributed energy." The idea is to encourage medical centers, factories, financial institutions, and other entities that provide critical services to purchase stationary or transportable "micropower" plants. These plants can independently support the facility's energy needs and can include solar

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and wind-generated power generation. Surplus electrical power could be sent back to the power grid, particularly at times of peak demand. Mobile micropower plants could be transported to disaster areas when the local power grid has experienced substantial damage. The electrical utility could pay for the surplus power generation when they need it and FEMA could lease mobile capability when it is needed. This would effectively subsidize the cost of companies owning and operating these mini- plants. Everyone wins: companies that own these mini-plants can be confident they will always have access to their own power source should the grid go down. At the same time, they provide extra capacity that helps to reduce the odds that a surge in demand for power will lead to a blackout. And in the case of mobile mini-plants, they can serve as a reserve capability that can be quickly transported to a region facing a disaster.

Still another way to provide incentives for private enterprises to invest in resiliency measures is by leveraging insurance. In much the same way as insurers provide a family a break on their premiums if they install a home alarm system, companies ideally could reduce their insurance bill if they adopted measures that lowered insurers' exposure in the event of a disaster. But making insurance an ally in dealing with the risk of catastrophic events is trickier business than it is for homeowners policies for three reasons. First, insurers tend to steer away from things that may involve ruinous losses and insolvency. Second, insurers want to have as broad a pool of policyholders as they can to diversify the risk. Therefore they need to be confident that enough people will elect to buy their insurance product. Third, private insurance companies need to be confident that the measures they would be subsidizing by way of reduced premiums do in fact mitigate risk and that their clients are actually adopting these measures.

The federal government can help lower or eliminate each of these barriers for insurers. For instance, the government can cap the risk that insurance companies face by effectively becoming a reinsurer. That is, the government can establish a ceiling on the amount of losses a private insurance company would have to pay, and agree to make up the difference to the policyholder if the losses exceed the cap. The government can also help assure an adequate pool of customers for the insurance by mandating it as a condition for receiving a permit or license or providing a tax break to the insurers who write new policies or to businesses that pay these premiums. Finally, the government can establish and reinforce the standards against which the insurance incentive is set.

An example of how the federal government can leverage the insurance industry to reduce the risk of disaster is provided by Congress's approach to preventing major oil spills by the shipping industry. After the 1989 grounding of the supertanker *Exxon Valdez* in Prince William Sound, Alaska, Congress pass the Oil Pollution Act of 1990 that requires all oil tankers to provide evidence that they carry a minimal level of insurance, based on their size, to cover the costs associated with an oil spill, should they have an accident. This evidence in the form of a certificate of financial responsibility (COFR) must be on file with the U.S. Coast Guard as a condition of gaining entry into U.S. waters.
The *Exxon Valdez* case highlighted that the damages associated with a major oil spill can run into billions of dollars. Since insurance companies are understandably reluctant to take on that kind of a risk, Congress created an Oil Spill Liability Trust Fund that covers

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losses above an established cap. This one-billion-dollar fund was financed by imposing a fee of five cents per barrel on domestically produced and imported oil. Once the fund was financed to its authorized level, the fee was suspended. If the fund is drawn upon in the aftermath of a major oil spill, the fee could automatically be reactivated to replenish it. The fund, which grew with accumulated interest, can also be used by Congress to pay for various oil-safety and pollution-prevention initiatives.

Ideally, insurance companies are verifying that tankers are complying with the minimum safety standards before issuing a policy documented in the certificate of financial responsibility. To give them an extra incentive for doing so, the Oil Pollution Act includes a clause that removes the liability ceiling if there is evidence of gross negligence, willful misconduct, or violations of federal regulations. Since insurers are always interested in reducing their exposure to large claims, many carefully inspect vessels to ensure shipowners are abiding by the prescribed standards and deny insurance coverage if they are not up to par. The Coast Guard provides an added inducement for them to do so by periodically checking insured vessels to make sure they are in compliance with the established standards. If the vessel fails that inspection it is denied permission to offload its cargo in a U.S. port until the deficiencies are corrected. Further, every other vessel carrying a policy issued by the same insurer may be denied entry into a U.S. port until a Coast Guard boarding team confirms they are in compliance. These delays can cost shipping companies several hundreds of thousands of dollars each day, creating a powerful incentive to make sure that they buy insurance from a reputable company.

In short, when government and the insurance industry work together, they can create powerful inducements for markets to behave in ways that serve public interests. However, care must be exercised that insurance does not actually become a mechanism that rewards risk-taking behavior. Unfortunately, this has been largely the case with flood insurance whose premiums are set artificially low. This relatively low-price vis-à-vis the likely potential for catastrophic losses translates into the general taxpayer picking up the tab for individuals who build homes where they shouldn't.

A very promising model for deepening private-public cooperation and aligning financial incentives for building and maintaining resilience at the local level is the "Community Resilience System Initiative" that is being developed by the Community and Regional Resilience Institute at Oakridge National Laboratory. Drawing on prototype efforts undertaken in Charleston, SC; Gulfport, MS; and Memphis, TN, the initiative has two goals. First, is to identify the things that can increase the ability of communities to maintain normal functionality with little disruption or, when disrupted, to recover normal functioning rapidly and with little loss of economic and social value. Second, is to encourage communities to make sustainable investments in those things.

The initiative is designed to help community stakeholder: (1) understand what characterizes resilience; (2) how to assess resilience; (3) how to prioritize options for improving their resilience;(4) how to objectively measure the impact of the improvements; and (5) how they can be rewarded for their investments. At the national level, there should be a compelling case for encouraging the development of more

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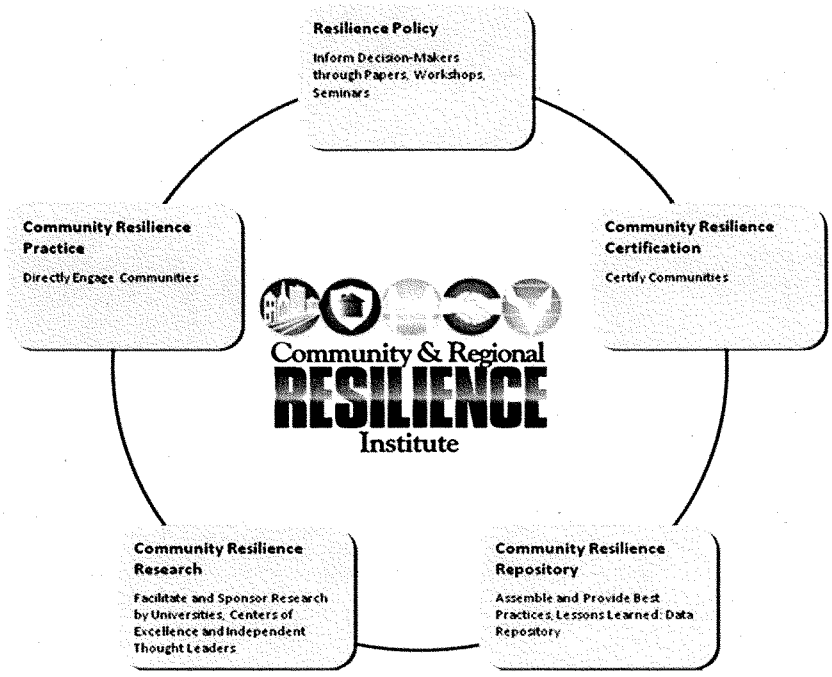
resilient communities because these communities have a lower level of reliance on limited federal resources and a lower level of reliance on scarce private business sector and private non-governmental resources in the aftermath of a disruption. Because the Community Resilience System would provide objective measurements of risk and vulnerability management, communities should be in a position to accrue tangible economic benefits as well. These benefits might include the insurance and re-insurance industry favorably adjusting insurability and rates if a community is evaluated as having greater levels of resilience. The same common measurement might also boost the confidence of lenders and those assigning bond ratings which would lower the cost of loans for resilient communities. Finally, the system could be leveraged by a community to attract new businesses and current business expansions, thereby increasing the community's economic development potential. A model of this approach is below.



One final benefit of investing in resilience is that it both draws upon and strengthens the United States' greatest assets: its civil society and the private sector. As Alexis de Tocqueville observed in the first half of the 19th century, one of America's most distinctive qualities is its tradition of self-reliance and volunteerism. Clearly those attributes have atrophied in recent years in no small part because much of the responsibility for safety and security has been taken over by professionals. The national

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security apparatus constructed to deal with the Soviet threat during the Cold War was built around career soldiers and intelligence officials who inhabited a world largely cordoned off from the general public by the imperative of secrecy. At the same time, cities and suburbs are increasingly reliant on full-time emergency responders and sizeable police forces. This has led many people to see public safety as an entitlement instead of as a shared civic obligation. A renewed national emphasis on building individual and community resilience would help to strengthen our increasingly frayed social fabric since it requires everyone to play a role, not just the professionals.

Chairman Pryor and Ranking Member Ensign, I thank you for this opportunity to testify today and look forward to responding to any questions that you might have.

Stephen Flynn is the president of the Center for National Policy and the Chair of the Steering Committee for the Community Resilience System Initiative. He is also author of ***The Edge of Disaster: Rebuilding a Resilient Nation*** *(NY: Random House, 2007)*

Subcommittee on State, Local and Private Sector Preparedness and Integration

Post-Hearing Questions for the Record
Submitted to Dr. Jack Harrald
From Senator Mark Pryor

"The Next Big Disaster: Is the Private Sector Prepared?"
March 4, 2010

As you stated, information and technology is changing the way we can prepare and respond to disasters, and I do believe we should utilize and integrate new technology to address. I also agree that there are challenges in capturing and best using the various sources of information.

1. How can we better integrate new technology in our current emergency management structures?

Answer: There are some technological innovations that will greatly facilitate the integration of information technology by making key technologies far more useful and easy to use. These include improved data verification and fusion technologies that will increase the ability to use data from new and unusual sources, spatial data and analysis tools that will provide decision support as well as geographically displayed information, increased bandwidth that will allow visualization of data and combined displays of images from multiple sources, and portable display technology that will make this information available to those who need it. All of this will, however, require an openness to technological innovation that is occurring primarily in the private sector in government agencies that are comfortable in relying on the technology that they own and operate.

2. What are some of the issues that need to be worked out to enable enhanced communication and coordination of information and technology?

Answer: Enhancing communication and coordination of information and technology is an organizational and behavioral issue as well as a technological issue. Collaboration implies both willingness and the technical ability to share information and to communicate. Emergency managers will always want to know and the source and reliability of information before they use it and will prefer to communicate with those they know and trust. This implies that the trusted networks of public/private/community organizations that is needed during a disaster response must be built for non emergency purposes. Conversely, a community that is fragmented and distrustful during normal times is not going to collaborate and share information during an extreme event, no matter how much technology is made available.

3. Has the National Academies addressed best practices for better using and integrating the information sources?

Answer: The National Academies National Research Council's Computer Science and Telecommunications appointed a Committee on Using Information Technology to Enhance

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Disaster Management in 2005. The Committee was chaired by Dr. Ramesh Rao, University of California San Diego. I served as a member of the committee. The Committees report Improving Disaster Management: *The Role of IT in Mitigation, Preparedness, Response and Recovery* was published by the National Academies in 2007 and may be obtained through the National Academies Press bookstore (http://www.nap.edu/bookstore.html) . The National Academies Press has also published the result of the 2009 workshop *Applications of Social Network Analysis for Building Community Disaster Resilience*: The National Research Council Committee on the Review of the Tsunami Warning and Forecast System and Overview of the Nation's Tsunami Preparedness has recently completed its work and its report will be published soon. The National Research Council has convened a committee on Alerts and Warnings that will hold a workshop in April and will publish are report this summer.

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Subcommittee on State, Local and Private Sector Preparedness and Integration

Post-Hearing Questions for the Record
Submitted to Mr. Stephen Jordan
From Senator Mark Pryor

"The Next Big Disaster: Is the Private Sector Prepared?"
March 4, 2010

1. You say business preparedness and improving community resilience go hand in hand. What new approaches is the business community taking regarding preparedness?

Answer: Businesses are increasingly taking safety precautions such as creating emergency response policies and holding fire drills. Toolkits like the Institute for Building & Housing Safety's Small Business Guide and other resources available on BCLC's disaster website are commonly used.

Chambers of Commerce and national businesses are increasingly looking at how different systems fit with each other, and identifying key partners to address different aspects of community recovery. They are increasingly building up relationships with key assets in local communities like school superintendants and hospital administrators and with public and voluntary emergency providers. Some corporate foundations like the Office Depot Foundation are requiring non-profits to furnish their emergency preparedness plans when they submit grant applications.

Developers and business site developers are using their resilience and safety investments as selling points and tools for reducing insurance premiums. Building codes, enhanced infrastructure, redundant transportation systems, inventory safeguards, and decentralized record-keeping are becoming increasingly widespread common practices.

For the future:

A. We are trying to build up more resilience and sustainability planning and analysis capacity and support. More local and regional chambers support the development of regional sustainable infrastructure plans and studying different solutions for how the built environment and natural habitats co-exist. These plans are often more expensive than any single entity can support because they involve commissioning scientists and academics to analyze the economic impact of various sustainability and resilience measures, and they cut across political boundaries.

   This kind of analysis requires the commissioning of environmental and economic baselines in the event that extreme weather or other type of disaster like an oil spill cause economic and environmental dislocations.

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B. We are building up more support for basic research and development. The National Hurricane Center, NOAA, the U.S. Geological Survey, and other government entities provide very important climate, weather, and geological information to business, but the limits of our knowledge are very clear. More R&D about coastal exploration, fluid dynamics, chemical interactions, geological formations and seismic shifts, and other analysis would help agriculture, mining, exploration, transportation, real estate, and many other types of businesses make more informed decisions about site selections, design, construction, and other business investments.

C. We are working on better joint coordination mechanisms. Many companies complain that they don't know "who is doing what" with regard to recovery, preparedness or future development decisions. We believe that there are several natural regions that lend themselves to better joint coordination between the public, private, and non-profit sectors. These include:

   a. The West Coast. We need better mechanisms to improve resilience and sustainability in the face of earthquakes, droughts, mudslides, and wildfires.
   b. The Upper Midwest. From Fargo and Grand Rapids to Cedar Rapids, the region has had some historic flooding issues in recent years.
   c. Tornado Alley. Stretching from Oklahoma and Kansas to Georgia, Tennessee and Kentucky this part of the country has had some epic tornadoes and flash floods.
   d. The Gulf Coast. Still scarred from Katrina, this region has faced several crippling hurricanes since then, as well as the Deepwater oil spill.
   e. The Atlantic Coast. In addition to hurricanes and "perfect storms", this area also has to anticipate sea level rise, coastal erosion, and urban-rural development challenges, not to mention the specter of manmade attacks ever since 9/11.

In addition to strengthening our regional joint coordination mechanisms, we are working on reviving and expanding our national mutual assistance network, similar to what the Clinton Administration developed with Project Impact. Disaster preparedness and recovery is an iterative process. After every disaster we learn more about how to address them, and we need to be able to diffuse these learnings across the country much more rapidly.

BCLC helps local chambers share information about their experiences. So for example, Cedar Rapids helped Nashville cope with their recent flood experience, and the Manhattan Chamber provided advice and counsel to the San Diego chamber a few years ago, but we need to continue to upgrade and improve these capabilities.

2. How do the preparedness challenges of small and large businesses differ?

Answer: Small business preparedness differs from large business preparedness in the following ways:

- Unlike larger businesses, small businesses typically lack the resources to withstand even a few weeks of disruption. If they experience revenue disruptions, they are no longer able to pay employees or continue operations.

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- They have fewer facilities than large businesses, so a catastrophic event can affect their entire business, as opposed to a percentage of the business for a large company.

- Small businesses typically lack the time and resources to develop robust business continuity plans. For this reason, they typically require more technical assistance and support to make the best decisions after a disaster.

- Loss of employees after a disaster can be devastating to small businesses because of the critical knowledge and experience that those employees possess. They are not as easily replaceable.

- Small businesses typically do not know what federal resources are available to them after a disaster.

- They typically do not have the spare capital to conduct major mitigation efforts like ensuring their buildings can withstand major disasters.

- Small businesses are often underinsured (especially flood insurance), and therefore are unprepared for the rebuilding costs after a disaster.

- They often do not have a good understanding of how customer and supplier relationships would change after a disaster.

- Many small businesses do not have off-site record-keeping or adequate record back-ups.

3. Small businesses that don't have deep pockets are often hit hardest disasters. Many fail because they could not afford to prepare for disaster or their credit lines run out after a disaster and before the local economy can recover. What new thinking is there about what can done to better prepare small businesses and survive after the first few months of recovery?

Answer: BCLC is exploring ways to create a "credit for preparedness" program. We believe that small and medium-sized companies would have more of an incentive to take precautions if they knew that this would enable them to pre-qualify for emergency lines of credit in the event of a disaster.

After 9/11, the Manhattan Chamber of Commerce set up a gap financing mechanism to help small businesses with fewer than 100 employees south of 14th street recover. More than 500 chambers around the country joined the Manhattan Chamber to support this initiative. The Louisiana Association of Business and Industry, based in part on this experience, established a similar fund in 2005 after Katrina. The Association of Chambers of Commerce Executives (ACCE) and BCLC also established "Adopt-A-Chamber" and "Adopt-A-Business" programs respectively to support recovery. The drawback of each of these initiatives was their ad hoc nature, and the fact that they were established after the fact, after most private donors had already made their disaster response decisions.

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It makes sense to have a national "one-stop shop" for community reconstruction.

A National Recovery Fund (NRF) for economic recovery would enhance the nation's community reconstruction capabilities by accelarating small and medium-sized business access to capital for their recovery needs. This fund would have the following functions:

(1) Promote Preparedness
To work with small businesses, nonprofits, and community leaders to raise awareness about and incite action on:
i. Building and housing safety
ii. Interconnectedness issues, such as supply chain implications
iii. Recordkeeping and data management
iv. Information-sharing protocols
v. Financial precautions
vi. Operational precautions
vii. Evacuation and safety
viii. Return protocols
ix. Restoration of services
x. Relocation contingency plans

(2) Recovery – Technical Assistance
To provide impacted small and medium-sized businesses with technical expertise about business reconstitution tools and techniques
i. Working with relief agencies
ii. Working with other government agencies
iii. Additional available resources –
   1. raise awareness about Aidmatrix and other clearinghouses that connect donated goods and services to those who need them
iv. Payroll, inventory management
v. Reconstruction management

(3) Recovery – Financial Support
Option A: Provide gap financing directly to deserving and pre-qualified companies and non-profits with less than 50 employees
Option B: Provide a reserve pool to local financial institutions to draw from to make emergency no-interest and low-interest loans and subsidize insurance rates in impact areas
Option C: An automatic line of credit tied to a small business credit card.

(4) Long-Term Community Recovery Support
- Impact area design and planning
- Awareness about under-served needs
- Impact area investment opportunity marketing
- Job opportunity marketing
- Convening potential employers, employees, investors, suppliers, partners
- Ombudsman/trouble-shooting
- Metrics and evaluation

There are numerous technical details that need to be worked out, but we believe that such a program would deliver multiple benefits – both enhancing preparedness on the front-end and accelerating recovery on the back-end.

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