

Katrina as Prelude:

Preparing for and Responding to
Future Katrina-Class Disturbances
in the United States

Testimony before the
U.S. Senate Homeland Security and
Governmental Affairs Committee

March 8, 2006

Submitted by

Professor Herman B. Leonard

John F. Kennedy School of Government
and
Harvard Business School
Harvard University

and

Dr. Arnold M. Howitt

John F. Kennedy School of Government
Harvard University

Katrina as Prelude:

Preparing for and Responding to Future Katrina-Class Disturbances in the United States

Testimony before the
U.S. Senate Homeland Security and
Governmental Affairs Committee

March 8, 2006

Herman B. Leonard, Ph.D.

Professor of Public Management
John F. Kennedy School of Government
and
Professor of Business Administration
Harvard Business School
Harvard University

and

Arnold M. Howitt, Ph.D.

Executive Director
Taubman Center for State and Local Government
John F. Kennedy School of Government
Harvard University

Hurricane Katrina was the largest and most severe natural disaster to befall the United States in at least a century. Scale for disasters is a combination of the intensity of damage, the size of the impact zone, and the amount of value – lives and property – in the area of impact. By that standard, Katrina dwarfs even significant events of the recent past – even notable events like Hurricane Andrew and the Missouri River floods, both in 1993. In Katrina, significant damage (enough to hinder transportation, create power outages, and so on) occurred over an area of about 100,000 square miles – roughly the area of the UK. By contrast, a very large wildfire – a significant natural disturbance in its own right – might burn an area of 500,000 acres, or about 1,000 square miles ... *one percent* of the area affected by Hurricane Katrina.

Conditions on the ground along the Gulf Coast and in the New Orleans area when the storm hit contributed significantly to the catastrophe. The partially successful but (inevitably) incomplete evacuation in advance of the storm – who had and who had not self-evacuated or been evacuated – coupled with the severity of the storm itself (most especially, the enormous storm surge along a significant expanse of the Gulf Coast, together with the high winds and torrential rains over a wide area) and its after-effects (principally, the overtopping of the St. Bernard's Parish levees and the breaching of the New Orleans levees) created a nightmare scenario: large numbers of people, many with infirmities or other challenges that would render them unable to care for themselves or conduct self-rescue, trapped in life-threatening situations in the midst of an impact zone with essentially no functioning communications or even observation infrastructure. In the middle of the most severely affected areas, society was, in the immediate aftermath, blind, deaf, and mute: we couldn't see what was happening, we couldn't hear from the affected population, and we couldn't communicate to them what they could do to stay safe and contribute to their rescue. It was difficult to assess who faced the greatest immediate dangers, and where, so it was nearly impossible to prioritize responses. And the scale of the needed rescues – thousands of elderly patients trapped in nursing homes, thousands of inmates trapped in jails, thousands of residents trapped in their houses or on their roofs or in apartment complexes, thousands of visitors trapped in downtown hotels – together with the ongoing support (food, shelter, medical care, ...) of those rescued, completely overwhelmed available resources.

The inescapable reality is that the United States – its governmental units and its society as a whole – is not now and never has been prepared adequately to deal with a disaster of the scale of Hurricane Katrina. Given the pre-existing conditions of preparation in the nation and in the region – infrastructure, capabilities, systems, and people – as of the middle of August 2005, and given what the storm was going to do, it is therefore important to realize that *no one could have led the response to this storm in a way that could have produced a high performance ... or even, perhaps, an adequate performance.* To be sure, we could (and should) have done many things better, even starting only days before the storm hit. But even inspired leadership in the moment cannot overcome a fundamental lack of preparedness. At the local, state, and national levels, we were simply not ready – and we are still not ready – to face a cataclysm.

If that is so – and we believe it is *clearly* so – then the search for individual culprits and malfeasants is not likely to help us much to improve performance in the disasters yet to come. Yes, there were mistakes that were made in Katrina that could have been avoided, and there is deserved criticism for some of the actions taken (and, more especially, not taken). But while there were individual failures involved, the story is not principally a story of individual failures – it is, instead, a story of failures of *systems* and of failures *to construct systems in advance* that would have permitted and helped to produce better performance and outcomes. It is very important not to let the reflexive instinct to find someone to blame distract us from the larger and more important – and more difficult – challenges: how do we build, resource, and hone the nation's capability – combining federal government, state and local government, NGO, private sector, and citizen efforts – to face more effectively the large scale disturbances that are yet to arrive?

We believe that there are concrete short-run and longer-term changes that can be made in the systems, processes, training, and coordination of disaster response organizations and people that can significantly improve our collective capabilities – without large amounts of additional funding.

The US *Did Not* and *Does Not Currently* Have an Agency Capable of Centralized Overall Direction and Coordination of Response to a Katrina-class Event

FEMA – as an agency, and in the person of its former director, Michael Brown – has been widely criticized for its performance in the face of Katrina. As the immensity of the catastrophe and suffering became increasingly clear in the days following the storm, and as the response was painfully slow in getting essential help where it was needed, and as the lack of coordinated and streamlined response dismayed observers at every hand, many felt that the federal government should step in and play a central coordinating and directing role. While it might indeed have been useful for a single agency to bring coherent command, control, and direction to the response efforts, there are at least four features that made that impossible in the context of the August 2005 situation:

First, **FEMA was not designed, resourced, or authorized** to take such a role.

Second, **the scale of disaster that FEMA was designed for was considerably smaller than that produced by Katrina.**

Third, to the extent that FEMA had (as it had been directed to do and as it said it had done) designed a National Response Plan, **the NRP was only a plan – it was not a functioning, practiced, operable system.**

Fourth, **the constitutional structure of the United States makes it quite difficult to construct an agency for such a role – and the infrastructure for that role had not been constructed as of the time Katrina hit.**

FEMA's Role FEMA is not designed to be a central, in-charge, director of a response effort. Perhaps it (or another successor agency) could or should be. But it has not been, and it is not, to now, designed for or prepared for that role. It is, instead, designed to be what we might refer to as a *supply-chain broker*. It has only limited resources of its own. It is designed to be an order-filling enterprise – it is supposed to know where to get things, to know who has what and where it is located and how it can be moved, and to operate an order-delivery process connecting requests for assistance – people, materiel, equipment, and so on – with ultimate suppliers of those resources. For the most part, it is not designed or intended to directly control or supply those resources itself.

FEMA, as it existed in the middle of August of 2005, had neither the mandate, nor the resources, nor the structure, nor the legal authority, to step into a “command” position. The operating philosophy of the nation’s emergency response system was that response

should be led by state and local agencies, with their greater knowledge of local conditions, priorities, circumstances, norms, rules, laws, and authority. The envisioned federal role is to backstop, from a resources standpoint, the on-scene agencies, providing commodities, specialized teams (like USAR and medical teams), and people or groups with special capabilities (through the Emergency Management Assistance Compact).

Note that, crucially, this presupposes that there will be a functioning collection of other agencies – state and local government units – in a position to assess what they need, make coherent requests, receive requested resources, and deploy them effectively. This may be a problematic assumption -- state and local government units vary widely in their capabilities and preparedness, and in particularly intense disturbances may also be subject to significant destruction of their capacities to respond. It may, therefore, make sense, going forward in building our capacity to confront truly catastrophic events, to develop a response capability – a new mode, if you will, of federal response – that would allow for greater centralization, use of authority, command, and direction. But it was unreasonable to expect that FEMA – the agency, or its leaders – would be able to produce that performance in the aftermath of Katrina given that it was not specified as part of the mission given in advance.

Scale and Preparation We have, to be sure, prepared as a nation (albeit somewhat inconsistently over time) to address the more modest and routine scale disasters. We were not adequately prepared for Hurricane Andrew in 1993 – a storm of unexpectedly high intensity that exposed major shortcomings in the nimbleness of the federal response backstopping state agencies – but work in the intervening years had improved FEMA’s capacity to respond to what we would term an “ordinary” disaster (of which Andrew was a particularly severe example). Thus, when the hurricane season in 2004 brought four major storms in succession sweeping across Florida, the response was by no means perfect – it never is – but it was nonetheless reasonably effective. Our response capability for ordinary disasters has waxed and waned, but, to a first approximation, it could be described as generally adequate.

Hurricane Katrina, however, was of an entirely different scale and scope. A much larger area with communications, transport, and other utilities severely compromised. Along the Gulf Coast, whole towns leveled by a 25-foot wall of water, with debris scattered miles inland. In New Orleans, many thousands of people, many of them infirm or otherwise in need of general help, suddenly in situations of immediate threat to life and safety, scattered over a vast area with few identifiable truly safe areas to which people could be moved and in which they could be safely supported, and with long lines of communication to any dry and functional “staging area” for basing rescue operations and receiving rescued people. This is not just “a little more of the same” – this is a disaster that is so quantitatively different as to be qualitatively different as well. The United States has not before, in the modern highly-urbanized period, faced such a disaster, and it was (and is) not prepared, organized, or ready.

The NRP was a Plan and a Plan Only The National Response Plan, promulgated officially by FEMA in December 2004, embodies many useful and appropriate systems

and procedures for organizing emergency response (on a wide range of scales). Promulgating the plan, however, does not enact it as a functioning, smoothly operating system. And agencies had had only six months to digest and begin to align the systems through which they would coordinate with and support FEMA at the time Katrina struck, so in fairness we should not have expected full alignment of systems and processes among the federal agencies involved in Katrina. To become a system in practice (rather than on paper and on the shelf), the NRP will need years of training, practice, drill, and exercises by all of the agencies and people that it contemplates might be assembled in an emergency – which is a wide range indeed. Moreover, while it embraces the concepts and structure of incident management (in the form of the National Incident Management System), it overlays this structure on the pre-existing Emergency Support Function system of organization within FEMA – and the result is an incomplete and uncomfortably unresolved “real” structure through which FEMA would (and, in the case of Katrina, did) organize its actual efforts. Empirically, the ESF form of organization seemed to dominate (at least in the Louisiana response, though apparently to a lesser degree in the Mississippi response). In any case, full implementation of the NRP will require much more work in developing regional structures and practicing how agencies will actually coordinate than had even begun to be contemplated before Katrina struck.

The Constitutional Challenge More durably, the constitutional structure and philosophy of government in the United States generally militates against having the federal government assert a centralized authoritarian role in coordinating and directing disaster response. A peculiar (and, many think, wonderful) feature of our structure – one I’m sure no one needs to explain to the members of this committee, who must contemplate it nearly every day – is that the US has non-subordinate hierarchies of authority based in the states, on the one hand, and the federal government, on the other. This arises historically because, contrary to the experience of most other nation states, here the states created the federal government, retaining important powers for themselves. There is thus no natural hierarchy or subordination of state and local powers under federal jurisdiction (or vice versa). States make, and their law enforcement agencies enforce, local laws – and the federal government has little to say about them, and no authority to enforce them (except in those limited instances where the state action would infringe on federally guaranteed rights or Constitutionally specified national authority).

This is a durable feature of our system. It may be something that can (and should) be engineered around, to permit the future establishment of a more coordinated and directable integrated response to future catastrophes. But, at a minimum, its existence as of August 2005 forms an important part of the context for why it would have been unreasonable to expect FEMA to be able to step into a dominant coordinating and directing role.

Thus, the operating philosophy of the nation’s emergency response system, the design and resourcing and legal mandate of FEMA, the scaling of our response capabilities (to disasters significantly smaller than Katrina), the realities underlying the promulgated National Response Plan, and the constitutional structure of our nation’s governments all

lined up against FEMA occupying the role that many came to desire of it, expect of it, and criticize it for not taking. None of this is intended to defend FEMA's performance, nor to excuse the many and obvious failures of the response. Many of the challenges that existed in the middle of August that would prevent an excellent response to Katrina were of FEMA's (or DHS') making. They may have been FEMA's responsibility – but they were not fixable after Katrina rolled ashore. We are not trying to exculpate FEMA – we are only pointing out that if we are going to perform significantly better, we need to understand the real roots of our past failures.

The failures evidenced in Katrina were *not* principally of individual or agency action once the storm broke, but rather failures of both *preparation and execution*. To the extent that there were failures of preparation, the failures were to construct systems and resources that would be up to the challenge of a disaster of the scale of Katrina. To the extent to which they were failures of execution, they were largely failures of systems, often arising from the mismatch between the scale of action contemplated in advance and the scale demanded by Katrina.

Our challenge is to design, build, practice, and maintain an integrated system of national response that is up to the task of a Katrina-class event. It is to this challenge that we will now turn.

Leadership and Serious Preparation for and Response to Large Scale Disturbances

The leadership failures that contributed to the events we witnessed on the Gulf Coast last August and September began long, long before Katrina came ashore. It literally took centuries to make the mistakes that rolled together to make Katrina such a vast natural and human-made calamity. First, for hundreds of years, people have been constructing and placing large amounts of precious (human lives) and expensive (infrastructure, homes, communities) value in New Orleans and along the Gulf Coast in the known path of severe storms. Second, for decades, we have been living with inadequately designed, built, or maintained man-made protections (levees, building codes, pumps, and so on), and have pursued policies and interventions that actively contributed to the destruction of the natural buffers (salt marshes, dunes, and other natural barriers) against the hazards created by placing value in harm's way. Third, for years – at least since 9/11, but even before that – we have known that we had systems of preparation and response that would prove inadequate against truly large scale disasters. Fourth, in the days and hours before Katrina's landfall, we failed to mobilize as effectively as we might have those systems that we did have in place. And fifth, in the days following the impact, we did not execute even the things that we were prepared to do as quickly and smoothly as we should have.

Katrina is not a unique event in the sense of exploiting long-accumulating vulnerabilities to catastrophe – it is just the only one we have actually witnessed. Other large scale events – a major earthquake on the West Coast, for example, or a terrorist incident with a weapon of significant scale in a major city – would create stories with many of the same elements. Looking back on some other such event, we might find ourselves observing that we have planted huge amounts of value over long periods in harm's way, failed

adequately to devise or implement means to protect it, failed to create systems up to the task of dealing with the resulting catastrophe, and failed to mobilize or use those systems that we had constructed as well as we might have been able to.

How do we not, in the future, find ourselves again with those same regrets? Our work needs to begin with a judicious and honest assessment of threats, followed by investments in prevention and mitigation and by construction of response systems that will be equal to a larger class of disturbances than we have previously allowed ourselves to contemplate.

Building a More Robust Capacity to Confront Large Scale Disasters

There are four essential elements to producing an effective large-scale emergency response – and a corresponding imperative that preparations be made to guarantee the availability of each of them in moment of crisis.

Capabilities. First, no response can be made without the relevant capabilities. Equipment, materiel, commodities, transportation, trained responders with the skills and equipment they need, and the capacity to sustain themselves for an appropriate duration in the field – all of these elements are essential. Even in the face of a disaster of the scale of Katrina, however, it is our view that as a nation we have most of the capabilities we need. Depending on the nature of the disturbance or event, there may be areas where critical resources might not be available in adequate supply. But for hazards like storms and floods, most of the required materiel consists of things that are routinely required anyway (food, water, means of shelter, and so on), and in a country as large as this these are available in vast quantities. The challenge lies, of course, in being able swiftly to locate and move them – and to coordinate that – but in general terms these capabilities also exist. While more work needs to be done on developing a smoother emergency supply chain management process, in our view the existence of the capabilities necessary to respond even to a very large disaster is not likely to be the binding constraint on performance.

Structures and Systems for Direction and Coordination. Emergency managers have developed an effective, scalable process for organizing emergency responses variously known as the Incident Management System (IMS) or Incident Command System (ICS). This approach has been endorsed by Congress, which mandated that FEMA promulgate it and establish it as the basis for organizing emergency response in any federally-involved event. In December 2004, FEMA released the National Response Plan, which announces and is based around the National Incident Management form of organization for emergency response. At a nominal level, thus, the nation's emergency response system is organized around a proven organizational approach that can be scaled to address emergencies of widely varying scope and intensity. In a practical sense, however, the national system is still an idea rather than a reality. We have, in the NIMS, a template for the right kind of organizational structure that can surge rapidly, scale up (and down) as necessary, and maintain awareness, conduct analysis and planning, and direct operations. Different enterprises operating in the same space on the same disaster response can, under this system, in principle at least, coordinate with one another. To get beyond the

nominal plan and make this a real national system, much more practice and training is necessary so that agencies and individuals are not, in the middle of a real disaster, experiencing for the first time how the system is supposed to work.

People with the Requisite Training and Experience – The “Red Card” System. The system can enable people to do things well – to understand the situation, analyze it, develop options, create a plan, and execute the plan effectively – but it is the people who have to actually do all of those things. This implies that an imperative of excellence in emergency response is having a cadre of people who are familiar with the systems, understand the roles they are being asked to act in, and practiced at doing what those roles require of them. They will be operating under stress, with lives in the balance – and the response to a disaster is no time for amateurs to be occupying new roles and beginning to accumulate experience. Wildland firefighting agencies, in which the modern form of the IMS was devised, have developed a system for building the skills and experience necessary for people to be able successfully to occupy their assigned roles on an IMS team. The system – known as the “Red Card” system, a reference to the color of the form on which an individual accumulates his or her professional resume – emphasizes the interplay of training, simulation, and direct experience in building leaders who can successfully occupy the key roles on an IMS team. If you do not have the red card qualifications to occupy a specific IMS role – whether it be operations chief or incident commander or logistics chief – you simply cannot occupy that role. In addition, people accumulate experience and training and red card credentials outside of the day to day hierarchy within which they function ordinarily. Thus, during a disaster, someone with more junior day to day rank may, by virtue of having developed expertise and experience as an emergency manager, have direction during an emergency over a team of technically higher-ranking officials from her or his own agency or from other agencies. During an emergency, what counts is your experience and expertise and qualifications as an emergency IMS leader – and that is all that counts.

Two important things happen as people make their way up through the red card qualifications system (or through other hierarchies – like the military operations commands – with similar organizational structures, training, and experiences). First, the individual people develop better skills through the training and the experience. Second, and perhaps more importantly, *people who turn out to be better at this (somewhat unusual) collection of tasks and activities tend to be the ones selected for higher leadership positions.* Thus, the people who emerge through the red card qualifications are trained and experienced at their roles and tasks – and *selected for being good at them.* By virtue of both learning and selection, the red card qualifications system provides leaders with appropriate skills and capacities.

FEMA has generally been resistant to the development or adoption of a system that would correspond to firefighting’s red card system. As a result, FEMA managers tend to be appointed on the basis of daytime rank and seniority. The person with the highest rank in a given office, chosen for capacity to build the organization and its capabilities for response, is not necessarily the person best qualified to lead it in a moment of intense stress and disruption. There is no reason why he or she *couldn’t* be the best qualified, but

there is little to guarantee that he or she *will be*. FEMA should build a system for developing people practiced at managing IMS roles under stress – and should build response teams around people with the best available training, experience, and prior performance.

Coordination. Perhaps the most notable and important missing element in the response to Katrina was the inability of different governmental units, nonprofit organizations, and private organizations to coordinate and harmonize their knowledge, plans, and actions. In our constitutional system, any large-scale disaster will necessarily involve multiple jurisdictions, levels of government, agencies and organizations outside government, and the public at large. Two forms of coordination are necessary for excellent performance. First, the *technical* work – assessing the situation, developing options, choosing responses, establishing plans for operations, directing operations, and tracking results – needs to be shared and coordinated across multiple enterprises that are often not even within the same hierarchy of authority, and don't necessarily recognize each others' authority. Second, it will in general be better if the *political* response(s) – explaining what is happening, helping people understand what they should do and how they should interpret and adapt to the situation, and, once immediate life-safety issues have been attended to, making decisions about what priorities should take precedence in claiming resources and attention – are reasonably harmonized as well.

Coordinating the technical work: The IMS approach – in part because it was developed to deal with situations in which large scale, multi-agency, multi-jurisdictional events are common – has mechanisms for coping with the coordination of the technical work across agencies, organizations, and jurisdictions. Rather than trying to create a single unitary command structure – with all units involved subordinated to a single command structure, the IMS approach calls for the formation of “unified command” – a more or less voluntary agreement to operate the response through a committee of individuals, each acting on his or her own authority and leading his or her own agency and voluntarily agreeing to coordinate action with the others represented. This process generally works surprisingly well – especially when the participants have had prior experience in the use of the IMS approach and when the agencies involved subscribe to and regularly practice and use the IMS. In a system where there are two (and sometimes more) non-subordinate lines of authority – for example, the state patrol and federal law enforcement officials have constitutionally separate authority – a coordination system like unified command is a useful instrument, and probably about the best that we are likely to be able to achieve.

Success of a unified command system rests heavily on the ability, under stress, for the agencies in question to work cooperate, sharing information, plans, and coordinating the deployment of resources. *This is likely to work dramatically better when it has been thought about in advance* – rather than having to be invented in the moment. Even a few days of warning about who might need to be coordinated might permit the development of some capacity to harmonize – better, by far, would be a series of exercises in which different combinations of agencies came together, worked and planned side by side, and got to know one another as individuals and as agencies. The mechanism for technical

coordination exists, and is embedded in the IMS approach; it remains to be much better developed in practice, as part of training and exercising the NIMS – and this should be a high national and regional priority.

Coordinating the political work: IMS was developed in wildland firefighting, a setting where life safety was the overwhelming priority, and the values of all participants – protecting lives, property, and natural resource values – were widely shared. In a world where there is a high degree of harmony in values, political work is relatively easy. In the early stages of a disaster, where lives are at risk, values are similarly likely to be harmonized. As the life safety issues are addressed, however, other, more divisive issues come to the fore. Where are the displaced persons going to be housed? Who is going to pay for public services for them? Which areas are going to get attention most quickly? What resources are going to be made available for recovery – and who is going to get access to them first? Whose voices will be heard in designing the recovery process or painting the vision of the recovered place? One doesn't have to look at the conversation about the redevelopment of the World Trade Center site in lower Manhattan for very long to realize that the issues are intensely political – and that the political issues soon dwarf the technical issues.

The greatest weakness of IMS, we believe, is that it does not provide any mechanism or guidance for trying to facilitate political coordination. In disasters, political leaders feel the imperative of being involved, of giving direction. Since most are not technical experts, they generally have little ability to direct the technical response. But since the IMS approach doesn't routinely distinguish between technical and political matters and questions, politicians and operational leaders often find themselves in a confusing conversation about the technical facts and options – a role for which political leaders are not likely to be routinely helpful. The recently released tapes, which include a conversation between the President and the Governor of Louisiana about whether the levees have been breached, is a case in point.

We need to develop a political analogue to the technical side of IMS, a way for political leaders (a) to identify the critical political issues and priorities; (b) to coordinate their decision-making about those issues; and (c) to harmonize their communication about those decisions and warrant them to the public. Obviously, this is challenging in circumstances where multiple jurisdictions, led by politicians who may represent different parties and who may have long histories of antagonism, are involved. Nonetheless, it is another area where working in advance on how processes – press statements, for example – might be coordinated could go a long way to allowing political leaders to play a more useful role in guiding what is happening and in explaining to the public what is going on.

How Can An Effective Large Scale Disaster Response Be Built Within DHS?

We see no intrinsic reason why the kinds of capabilities we are describing cannot be constructed within the Department of Homeland Security. First, we believe that it is important for preparedness and response not to be severed – preparedness and response

need to be strongly aligned with one another, and carrying them out in disparate agencies is unlikely to produce the degree of integrated planning and preparation that would produce high performance in the next major disaster. Every thought about a response capability that would be useful in a particular setting has an almost immediate implication for a form of preparation in advance that would be needed to enable that response in the moment – separating the operation of response from its planning and preparation seems likely to make attaining the appropriate degree of integration more difficult.

Second, the task of preparation against disasters seems a natural fit with the overall mission of DHS. If the Department is to be held accountable for enhancing security for Americans and the American way of life, and takes seriously the broad array of possible threats, then preparing against natural disasters (and operating the response mechanisms in the event of a crisis) should fit as well as preparation against and response to other threats. To put it another way, preparing for and responding to natural disasters like Katrina can be handled either well or poorly either inside or outside of DHS. Provide leadership that understands and assesses the full range of threats to security and that knows how to help its constituent organizations develop excellence, and there is no reason why preparation for and response to disasters needs to be in its own enclave (or in a different agency).

Third, it seems to us that most of the preparations against significant disturbances are more similar to one another than they are different – more or less irrespective of the source of the disturbance. Obviously, they differ in detail – earthquakes are different from floods are different from dirty bombs. And we need to contemplate and to prepare against each of the plausible scenarios that we can imagine and that seem non-trivially likely. But many of the core functions of government and that governments would be expected to coordinate would be similar across many different kinds of Katrina-class events. Significant displacement of (and needed support for) residents, sudden stress on the medical system, extraordinary effort needed to address the challenges faced by the infirm, the less mobile, and other specially vulnerable groups – all of these and many other features will be shared across most large-scale events. Developing generic capabilities to cope with disturbances over a wide range of intensities, scopes, and scales while also developing customized responses for different scenarios seems like something that one agency should be able to do more efficiently than many. And it would seem odd to have different agencies preparing in parallel for events of different types when those events will have significant elements in common and therefore require similar preparations. Putting preparation for and response to different hazards with similar consequences in different agencies is likely either to be duplicative or to create challenges of coordination that are likely to create gaps. We believe that an all-hazards approach makes sense, and that it belongs in one agency.

The question, then, boils down to the question of whether DHS can create within it a reasonable and appropriate balance among the efforts to counter a wide range of threats – and not be unduly dominated by focus on terrorist threats alone. DHS was born of a fear – and the reality – that insufficient attention had been focused on terrorism. That was

surely an imbalance that needed to be redressed. Katrina clearly demonstrated – as some had long argued – that other threats were also significant and demanded careful planning and resourcing. If DHS truly internalizes that view, then there is nothing that should prevent it from being the right place to carry out this analysis and these preparations.

The existing architecture of DHS, it should be said, expresses some ambivalence on this score. The Department’s “Strategic Plan” – promulgated in 2004, and still disseminated through its website – is potentially revealing about the Department’s orientation. The overall vision statement seems right – the Department dedicates itself to “Preserving our freedoms, protecting America – we secure our homeland” – which seems to embrace an “all hazards” orientation. Similarly, the mission statement and guiding principles are broadly drawn. “Securing our homeland” is a major organizing theme of the plan, and under it are listed seven major summary tasks – each also broadly drawn in an all-hazards frame. It is when we go below the summary, and begin looking at the individual objectives listed under each task, that the balance in the orientation seems to shift substantially toward dominance by the “protection against terrorism” narrative. Strategic Goal 1 (“Awareness”) identifies four objectives, all of which treat terrorism as the active threat. Similarly, Strategic Goal 2 (“Prevention”) outlines six objectives, none of which mentions natural disasters explicitly. It is not until we reach objective 3.5 (continuity of government in the face of crisis or disaster) that we find an explicit mention of natural disasters – and this follows objectives focused on the threats posed by illegal drugs, counterfeit currency, and cybercrimes. The all-hazards language is more prevalent as we go farther back in the list of objectives – but it would be a fair reading to say that while the strategic plan is permissive with regard to all-hazard work, by far the dominant components of the discourse are focused on terrorist threats. This balance may have been reset in the aftermath of Katrina, but if it has been then that has not yet become visible on the Department’s website.

If DHS is to remain the host for the nation’s development of response and coordination capability and the nexus for mobilizing and coordinating the response in the event of a large catastrophe, it needs to undertake an honest and systematic evaluation of the wide range of threats to American security.

Building Excellence at DHS

More generally, the challenge for DHS is to rise to the promise of its own vision – “Preserving our freedoms, protecting America – we secure our homeland.” DHS needs to produce excellence in its appointed task. What do we know about organizations – public and private – that achieve excellence?

First, they have **clear values**. They articulate what they stand for and care about, they inculcate these values, they attract people who share them, and they systematically deselect those who don’t. Their values provide a fundamental orientation and motivation for those who work in the organization.

Second, they exhibit **focus**. They have a clear idea of what they want to achieve, and they devote their efforts and resources to it, cutting out the things that don't contribute or that aren't essential to it. The German philosopher Friedrich Nietzsche famously observed, "The most common form of human stupidity is forgetting what we were trying to accomplish." Focusing on *exactly* what we are trying to do is the first component of excellence.

Third, they have **a system for enacting their chosen focus**. These systems come in different varieties and with different nomenclatures – but they have an essential element in common: they define "performance" in clear terms, and they provide information to people in the organization that helps them detect the relationship between their actions and the outcomes that are being produced. This is variously called performance measurement or performance management (and by other labels). One common system for embodying it is called a "balanced scorecard" – a method that allows the organization to track progress on components of their overall performance goal. But, in one form or another, excellent organizations find ways to define their performance goals with clarity and help people in the organization figure out how to contribute to achieving them.

Fourth, excellent organizations **identify the distinctive skills they need** to produce their most important performances, and systematically build those skills in their people. These key competencies are derived from their understanding of the performance they want to produce – and their best assessment of what is necessary to produce it. This defines a set of learning objectives for people in the organization – and as these objectives are met, performance naturally improves.

Finally, excellent organizations exhibit **leadership** – not just at the top, but throughout. This can take various forms – from more authority-driven to more inspirational. But though it may be carried out in different ways, in excellent organizations it always means some of the same things. In particular, leadership always emphasizes the values, the focus, the idea of what good performance is, the system for how performance is monitored and improved, and the key competencies and skills needed by the organization. In other words, however it is conducted, leadership acts as a force multiplier for the other characteristics of excellence.

Some Specific Areas for Improvement

While we have focused principally on the general problem of response to large-scale disaster, there are a few specific weaknesses exposed by Katrina that are worth focusing on here briefly.

Evacuations need to be much better designed and resourced. The incomplete evacuation of New Orleans was a major contributor to the human tragedy that unfolded in the aftermath of the storm. A very large number of people – something between a million and a million and a half residents – did evacuate to safe(r) locations in advance of the storm from the New Orleans and surrounding areas in a relatively short time, so in

this sense the evacuation can be viewed as at least a partial success. But most of that was the result of people who had the resources to do so taking care of themselves. Government was, for them, effective only in persuading them that they should leave and in taking some modest capacity-enhancing actions (like arranging contra-flow on the highways leading out of the area). The problem, of course, is that this left a small fraction – but a large number – of people *not* evacuated ... and these were precisely the people who might most be expected to need the help of the government in arranging evacuation. Those who are not willing or able to self-evacuate were a very different group than those who were self-propelled. They were less mobile, less attentive, less interested, less healthy – or actively interested in taking advantage of the fact that most everyone else is going to be gone. They were different from those who are willing and able to leave – and they were also very different from each other as well. Some were in nursing homes or hospitals; some were incarcerated in jails or other institutions; some were in home or hospice care. They had markedly different access to transport. We need to take seriously that the only success of New Orleans' evacuation – the mobilization of the self-propelled – left behind those who most needed government assistance. We need a much higher standard for what a real evacuation plan needs to include – and much more work on planning and engineering in advance to achieve evacuation of those who can reasonably be moved, and safe sheltering in place for those who cannot.

Security is a first order prerequisite to all other aspects of response. In the aftermath of Katrina, there were widely reported (and re-reported) instances of police officers and rescue workers being assaulted by armed gangs engaged in looting. It appears that these reports were substantially exaggerated – but they had a significant effect on reducing the flow of resources into the affected region (which, in New Orleans, really began to arrive at the Superdome and Convention Center in earnest only when accompanied by military escorts, which took several days to arrange). In a major disruption, the capacity to re-establish a law enforcement / security presence will be a significant determinant of the rate at which other parts of the response can be deployed.

Robust reconnaissance and observation apparatus for establishing situational awareness is a crucial ingredient to rapid response. In advance of Katrina's strike, evacuation thinned the forward-deployed assets that would have been useful in the immediate aftermath of the storm to assess the situation. A defining feature of severe-impact events is that they take down ordinary communications and observation assets. This is especially true when one of the preparations made in advance is to move people and resources to safe harbors to weather the impact. Of course, emergency workers need to be protected from the storm's impacts. But in the face of what was anticipated to be the largest threat to the integrity of the New Orleans levee system in modern memory, there was no apparent action to pre-position observers, equipment, robust communications, or other assets that might have enabled response coordinators more rapidly to understand the evolving situation as the levees gave way and water rose in different locations. When an event can be anticipated – and, if it occurs, is likely to produce chaos – it is useful to position some robust capacity for observation so that coordinators can more immediately and completely track the situation.

Communications systems for emergency response need to provide effective and robust inter-agency communication. Present systems remain tragically weak, fractionated, non-interoperable, and not very robust. A hallmark of effective response to a large scale disaster will be the ability of people and agencies in different hierarchies and different jurisdictions to share information, develop a common and accurate awareness of the situation, discover what each other are doing, and coordinate their actions. An essential precondition to being able to do any of this is the ability to communicate effectively with one another. Nearly five years after 9/11, this should not remain as challenging as it is – but the modern form of the Tower of Babel is the failure to produce seamless interoperability among communications for agencies that might reasonably be expected suddenly to have to work together.

“Forward lean” for critical response capabilities is essential. In the days immediately preceding Katrina’s landfall, some responses were mobilized. The President declared an emergency, providing access to some federal resources and authorizing federal mobilization before the event. This is an example of creating “forward lean” – moving resources toward where they will be needed, pre-positioning people and capabilities where they might come to be needed (rather than waiting until after the fact, assessing, and then moving). Forward lean can be expensive, and it can also be dangerous – exposing assets to greater harm by moving them in advance into what is expected to be an impact zone. On the other hand, there is no effective substitute for critical resources actually in the impact zone in the immediate aftermath of a significant disaster. Ordinary communications can be expected to be down; local resources may be damaged or scattered; local first responders may have become victims or may be preoccupied by their own and their families’ problems. It is in the nature of high-intensity emergencies that situational awareness will be near zero in the immediate aftermath; that re-establishing some reasonably comprehensive understanding of the situation and its implications and the resulting priorities for action is the essential immediate challenge; that the situation on the ground will be chaotic; that the affected people will be confused and not necessarily very functional; that opportunities will present themselves for looting and exploitation of the situation; and, for all of these reasons and more, that having a forward-leaning deployment of essential assets – security, observation and analysis, and communications – is worth the risk and the cost.

IMS (ICS) works, and needs to be more universally developed, trained, practiced, and enacted. In areas of the Katrina response where the incident management or incident command system methodology was employed by people who were familiar with it, who had trained extensively in it and who had used it before, the results were generally very strong. Incident command provides a logical, scalable approach that can allow different groups that are familiar with it to align their planning and operations to allow coordination and joint action. Some agencies (firefighting, EMS) are much more familiar with it than others. While it has been articulated as the national standard for organizing response to any emergency, it has not been universally adopted (beyond the nominal acceptance required to participate in federal disaster relief). To be effective, it needs to be embraced, trained, and practiced by individual agencies and by agencies exercising in concert with one another.

Coordination with the private sector needs to be much better developed in advance.

A notable feature of the more effective parts of the response to Katrina was that they often involved private firms. Many modern firms are built around excellence in the management of their supply chains, giving them a high degree of precision in knowledge about what they have and where it is, together with the capacity to move it efficiently to where it needs to be delivered. Wal-Mart, Lowes, Home Depot, Office Depot, UPS, FedEx and many other firms “stepped up” – making available facilities, commodities, transportation services, and other essential emergency response inputs, and directing their operations efficiently and effectively to roll relief supplies toward affected areas. These companies in many instances not only worked assiduously and effectively on providing help to their own employees, but also encouraged their employees to help others, and supported relief efforts by providing goods and services to the government and nonprofit organizations that were directly involved in operating relief efforts. Other private organizations – universities, construction companies, contractors, and others – might have been able to contribute more effectively if they had been coordinated with in advance and asked to play a positive role in the moment. The capacity to work smoothly, quickly, and efficiently with private sector organizations that have needed resources – commodities, transport capabilities, pharmaceuticals and medical supplies, and so on – will be especially crucial in the event of another large-scale disaster (because a large fraction of the resources needed to address the calamity will be located in the private sector). A number of companies have told us that they were significantly delayed in their capacity to help by bureaucratic systems and a lack of a well-defined point of contact and coordination with government agencies. They could see what was needed, they had it available, they loaded it on trucks, and they were prepared to deliver it – but they couldn’t get instructions or authorization about how and where to deliver it, and in a number of cases trucks full of needed supplies were turned around at security checkpoints. A great deal more work needs to be done, therefore, to establish an infrastructure of contracts, information sharing, and systems integration that would allow more rapid and effective mobilization, coordination, and redirection of goods and services that can be provided by private firms.

Directions for Excellence in Preparation for and Response to Large Scale Disasters

Our analysis suggests both long- and short-term imperatives for improving our readiness for and response to large scale disasters.

First, we need to take seriously the idea that the best opportunity to reduce damage from a calamity often comes in the time when we can **prevent or mitigate it in advance**. We need to insure that policies don’t encourage us to plant more value in intrinsically vulnerable situations – and we need to provide adequate protections when we have.

Second, we need to work with energy to **build the features of more effective response**:

We need to **install IMS as a real paradigm for action**, and not only as a plan.

We need to **develop the training and experience and qualifications system** for those who will lead the disaster responses yet to come.

We need to **expand dramatically the level of advance planning for coordination and the practicing of coordination** through simulations and exercises for regional groupings of agencies that may be called upon to work together in crisis situations.

We need to **build agreements and methods for political coordination in advance** on a regional basis to permit greater harmonization of political decision-making and political communication.

Third, we need to **address specific weaknesses in our response capability**, most notably including:

Developing the capacity for **forward-leaning security, awareness, and communications**

Developing greater **advance coordination with private organizations**

And finally, if DHS is to continue to be the host organization for our planning and operation of response capability, we need to **help DHS to become an excellent organization embracing its own vision of protecting the American way of life and Americans against a broad spectrum of hazards.**

This may appear an ambitious and potentially expensive agenda. Ambitious it surely is. But much of it need not be expensive. The most expensive element of disaster planning is arranging for physical capabilities. But, for the most part, new physical capabilities are *not* a part of this agenda. Most of what we have described involves establishing systems of coordination and establishing agreements – and practicing how organizations would work together in the event of catastrophe. Practicing, building coordination structures, and setting up agreements can be time consuming and complicated – which is why it needs to be done in advance! – but it is not resource-intensive. And the additional coordinating structures and agreements that we have suggested will have payoffs not only in the case of major catastrophe – but also in more limited emergencies as well.