

## Capacity Development in the Management of Disasters



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### Summary

Scores of reports, newspaper accounts, retrospectives, documentaries, and academic articles have been produced about the catastrophic United States hurricane of 2005, Hurricane Katrina. Many of these are empirical, but some are polemical, bemoaning the work of government officials in the disasters – and with good reason. There is little disagreement that government agencies at all levels failed in some aspect to protect one of the affected cities, New Orleans, Louisiana, before the event, and botched the response to and recovery from the event after the hurricane struck. Certainly the shock of Katrina reminded everyone in government that management, organization, and, especially, leadership matter, particularly in times of crisis. So what would another Hurricane Katrina bring in 2020? Will government at all levels be ready for such an event? Or is the worst yet to come (Kettl 2006)?

### Capacity in Emergency Management

Catastrophe has a way of exposing weaknesses in any administrative structure. As Bonabeau argues, the “internal weaknesses of a system tend to reveal themselves in times of external turbulence and stress. In other words, the cracks might not become apparent until something unusual occurs on the outside, that is, when it is probably too late. But an external trigger must not be confused with the cause of – or be blamed for – a catastrophic event” (2007). A disaster occurs when the demands of the system are greater than the capabilities of the community to meet them (Simpson 2008). Put another way, the impact of a disaster “agent” alone (such as a hurricane) does not determine whether an actual disaster occurred; it’s also a question of whether the community or nation has the requisite capacity to effectively address and cope with the incident.

The primary way to fix current weaknesses in the capacity of the emergency management system to be ready for an event like Katrina in 2020 is not to impose more hierarchy onto the system. Instead, governments and non-governmental agencies alike must embrace the principle of “horizontality,” whereby action in the administrative system relies less on command and control and more on functions and activities that are distributed across multiple actors through networks. Certainly, all effective responses will have an Incident Command System (ICS) that organizes incident responses around a central, “vertical” command. However, the ICS format must emphasize collaboration and coordinating networks on the front lines.

The idea of horizontality during disaster response is not new. For example, the Emergency Management Assistance Compact (EMAC) is an interstate mutual aid agreement that was developed out of the need to coordinate resources across states in the event of a disaster situation. Ratified by Congress in 1996, EMAC seeks to ensure that

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states have the resources they need to protect the public's safety and restore the state's infrastructure in a time of emergency or disaster. And many pre-Katrina studies document the critical role of collaboration in planning and responding to disasters. Researchers have found that the breakdown of collaborative networks is at least partially to blame for poor outcomes. This sentiment was elaborated upon by Drabek and McEntire who stated that "disasters, by their very disruptive and dynamic nature, create such significant demands on the affected community that well-executed, multiorganizational responses become not only necessary, but essential. In other words . . . no single department or agency has sufficient resources to deal with the disaster at hand. In addition, disasters often require the assistance of outsiders and multiple levels of government, thereby leading to multijurisdictional response operations" (2002, 206).

## Changes to the System

How can such horizontality be institutionalized? Although the Federal Emergency Management Agency (FEMA) continues to receive the brunt of popular criticism during disaster responses, it has recently taken steps to reflect the collaborative, horizontal nature of emergency management. One of the first major casualties of the emergency management system overhaul was the National Response Plan (NRP), which was the federal operational document during Hurricane Katrina. The NRP attempted to impose federal expectations, not only on members of the federal family of agencies, but on state and local entities in their efforts to deal with an all-hazards world.

The debates regarding the questions of "how collaborative?" and "with whom?" now permeate the design of emergency management directives in Washington, DC. One such directive is the National Response Framework (NRF), which went into effect on March 22, 2008. The framework is based in the idea that "communities, tribes, States, the Federal Government, [nongovernmental organizations], and the private sector should each understand their respective roles and responsibilities, and complement each other in achieving shared goals. Each governmental level plays a prominent role in developing capabilities needed to respond to incidents. This includes developing plans, conducting assessments and exercises, providing and directing resources and capabilities, and gathering lessons learned" (Department of Homeland Security 2008, 4).

In its final form, the NRF attempts to build adaptability and flexibility into response efforts by setting up a general framework, rather than specific prescriptions. Its intent is to provide the doctrine and guiding principles for a unified response of all levels of government to all types of hazards, but gives users some latitude as to how they choose to respond. The Framework reflects the reality that all emergencies are essentially local and it works hand-in-hand with the National Incident Management System (NIMS), which was also updated and revised in 2008. The NIMS provides the template for the *management* of incidents, while the NRF provides the structure and mechanisms for national-level *policy* for incident management. The NRF and the NIMS are formal attempts to "sort out" intergovernmental and intersectoral collaboration for disasters.

FEMA is also attempting to address the strategic issue of recovery from disasters. The National Disaster Recovery Framework (NDRF) offers a spectrum of recovery actions that, in the ideal situation, begins before a disaster strikes. Like the NRF philosophy of response, the draft NDRF recognizes the role of the federal government as a partner, coordinator, and facilitator – not as the command center – and that tribal, state, and local governments have primary responsibilities for the recovery of their communities and play the lead role in planning and authority for managing all aspects of community recovery.

Some federal homeland security grants also recognize the need for collaboration. For example, Urban Areas Security Initiative grants actually mandate regional collaboration for recipient jurisdictions. The funds are intended to be used to assist participating jurisdictions in developing integrated regional systems for all phases of emergency management.

## Horizontality 2.0

There are countless opportunities to improve the horizontal aspects of emergency management. For example, managers are finding that management through networks and collaboration is not just a "soft" skill; it can also be facilitated by the innovative use of information technology. Integrated information management systems can impact and improve upon virtually all aspects of disaster response and recovery, such as data accuracy, complexity reduction, purchasing and distribution, and enhanced inter-agency

communication and cooperation. A relational database used to store and retrieve information can be used for various applications. During an evacuation process,

...residents should be urged to register at the site...with specific information including name, address, number of family members evacuating and the city where family is planning to evacuate to. Based on the collected information, [a] city can determine how many people evacuated and how many still remain in the city. The information system can be used to generate statistical reports to show the pattern of evacuation and city to which [the] majority of people will evacuate (Banipal 2006, 491).

A system similar to this could also be used for supply chain management, such as identifying the emergency resources needed at specific locations and the critical facilities within the supply chain (Hale and Moberg 2005). Current FEMA Administrator Craig Fugate noted that, "It used to be that you needed a sophisticated GIS lab to do good mapping, incorporate satellite imagery and all that other stuff. Now you have so many products out there for the average person that you're putting tools in the hands of responders that in many cases they never had access to. They can bring in data layers and real-time data from various sources and look at it in a GIS environment without needing a GIS shop to produce that." (quoted in Pastula 2010).

The principle of horizontality is also being integrated into software programs that enable government agencies to work seamlessly across levels of government and other organizations. Programs such as E Team and WebEOC support data sharing across agencies and, when needed, can act as central communication hubs to route messages. Several researchers are designing and attempting to implement information systems that can support large-scale collaboration. For example, the use of Web 2.0 technologies, such as social networking sites like Facebook and MySpace, and rapid communication systems, such as blogs and Twitter, offer an opportunity for expert identification, resource availability, and collaboration on a scale not yet imagined or achieved (White et al. 2009). One project, known as "Mega-Collaboration," is based on a tool that "will surpass existing groupware and social networking

applications, providing easy entry, categorization, and visualization of masses of critical data," along with facilitating the creation of ad-hoc teams and coordinating large-scale activities (Newlon et al. 2009, 1).

Many non-governmental, street-level community members such as nonprofit agencies and social service organizations would benefit from a strategic playbook of sorts, based on past experience and designed to clarify expected actions during response and recovery. This desire for a step-by-step guide reflects (1) a failure of attention by local government planners to properly and thoroughly elucidate who's involved, why, and how; (2) a gap in the extent to which learning occurs across and within communities who experience disasters; and (3) a need for street-level participants to know who in real-time fulfills specific leadership and complementary roles.

## Will This Work?

Attempts to build capacity are underway in the emergency management system, but such capacity is far from tested. Emergency management is a complex mix of individuals, organizations, and actions, some of which will not be necessary in many types of disasters and emergencies, and others that will be singularly and perhaps unexpectedly important. Rules and expectations are at most times ambiguous, and tend to be highly interdisciplinary in nature. Enhancing the capacity of emergency management operations therefore requires horizontal, not vertical, thinking. Horizontal management allows for improvisation, creativity, and flexibility (McEntire 2007). It requires a new kind of leadership that is distributed across organizations, rather than vested in one person. One cannot deny that success in emergency management is highly dependent on the continuation of time, funding, and attention of the general public, as well as consistency in political leadership. However, wisely implementing the frameworks designed by FEMA and incorporating information applications that facilitate collaboration can go a long way toward effectively responding to and recovering from the types of events that are inevitable.

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