

Catastrophe planning and response

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Imagine an event with 10 or 100 times the impact of Hurricane Katrina. How can we prepare for such a catastrophe?

According to the US Federal Government, a catastrophic event is:

“ . . . any natural or manmade incident, including terrorism, that results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national morale, and/or government functions.”¹

Catastrophes differ significantly from "run of the mill" disasters in both kind and degree. Therefore, preparing for and responding to them is a fundamentally different undertaking which requires a different type of creative approach, thinking, and planning than that which is required for disasters, not just "more of the same," particularly as requirements are almost guaranteed to exceed capabilities. Though we have several hundred years of experience with disasters in the United States, there is still a lack of consensus on the core factors or conditions that are necessary for successful preparedness for and response to catastrophic events.

While some other parts of the world seem to suffer from catastrophes almost yearly, Hurricane Katrina is really the only catastrophic event in recent US history. However, we cannot afford to believe that we are immune to these events which

are so much more severe than "ordinary" disasters simply because we have only experienced one in the past 75 or so years. In fact, the United States is increasingly vulnerable to both disasters and catastrophes, because of changing demographics, environmental factors, and international conflicts. In a catastrophe, community built structures will be severely impacted and infrastructure destroyed, which may well result in local emergency responders and government officials not being able to function in a leadership capacity. Furthermore, the situation will become enormously complicated by the fact that simply because of the size and complexity of the event, it will no longer exist as an emergency management issue, but will almost immediately move into the political arena.

The emergency management community nationally has proven that we have the ability to function in normal disasters, as exhibited by the many successful response operations conducted to date. However, although all of the country is vulnerable to at least one type of catastrophic disaster, as a nation, we are poorly prepared for catastrophic events, as evidenced by the response, at virtually all levels, to Hurricane Katrina.

Although catastrophes are relatively rare, the enormous impact of such events requires that we actively engage in identifying catastrophic threats and plan responses to them in a coordinated, multi-level fashion. Most critical to catastrophe planning and response are the realizations that response *cannot* be handled as a normal disaster response, and

preparedness *cannot* accomplished by individual jurisdictions or states in isolation.

Planning for a catastrophic threat necessitates cooperation between a broad and diverse set of participants, including local, state, tribal, and federal government partners, as well as partners from business, industry, voluntary organizations, non-governmental organizations, and academia. Only with this type of broad partnership will different planners have opportunities to interact and to identify and plan for the major issues and needs that will have to be managed post event. Failure to reach consensus on catastrophe response requirements all but guarantees failure of the response and a chaotic and tragic end to the event.

With this in mind, several catastrophe planning efforts are currently underway using such broad coalitions and a bottom-up approach, thanks to the Catastrophe Planning Initiative under FEMA's Catastrophic Disaster Planning Branch. This initiative provides the financial, organizational, and other assistance necessary to bring together participants from various levels of government and the private sector to jumpstart planning and preparedness efforts.

Currently, there are two major planning projects underway—Florida Catastrophic Planning and New Madrid Seismic Zone (NMSZ) Planning, which have been made possible by special Congressional funding, while several other planning projects are either in development or are just beginning. Additionally, there is a concurrent project through the FEMA Emergency Management Institute's Emergency Management Higher Education Project to develop a higher education course on catastrophe readiness and response, which will help to prepare future emergency managers to deal with this critical issue.

As the co-lead developer of the higher education course, I was privileged to attend planning sessions for both the Florida and New Madrid projects during the past few months. At both sessions, I saw evidence of significant cooperation between local, state, tribal, federal and private sector agencies, organizations, and representatives, and realized how effective intensive federal support for a bottom-up approach to

catastrophe planning can be in helping the development of widespread partnerships between individuals and organizations at all levels. I also saw that provision of this intensive federal support to local, state, and regional catastrophe planning and preparedness efforts is very effective at jumpstarting the planning and preparedness work. Furthermore, I realized that the resulting increase in broad planning participation certainly justified the time, effort, and funding required to make these sessions happen, despite inaccurate portrayals of at least one session in the popular press. Lastly, I concluded that that this initiative truly sets the standard for how we in emergency management should approach catastrophic disaster planning and preparedness.

The scenario driving the Florida Catastrophic Planning project is actually based on two catastrophic events—land fall of a category 5 hurricane (“Hurricane Ono”) near Miami, and a subsequent breach of the Herbert Hoover Dike around Lake Okeechobee. This combination would result in the evacuation of an estimated 3 million people, flooding of South Florida under one to four-plus feet of water for several weeks, destruction of the homes of about 70 percent of the population, interruption of electrical service to 6 million customers, and crippling of the state's transportation infrastructure.

The scenario behind the NMSZ Planning project is the occurrence of a magnitude 7.7 earthquake occurring in Arkansas. This earthquake would have a massive direct impact on the NMSZ States (Alabama, Arkansas, Illinois, Indiana, Kentucky, Missouri, Mississippi and Tennessee), with tens of thousands killed, more than 100,000 injured, tens of thousands of buildings destroyed and hundreds of thousands of buildings damaged. People remaining in this area would have limited or no access to telecommunications, healthcare facilities and services, regular supply chains, etc. The earthquake would also indirectly affect the rest the United States to varying degrees. Eastern states would be blacked out because of a “cascading catastrophic failure” of the eastern power grid, and most of these states would also experience significant interruption in their supplies of natural gas, gasoline, heating oil, and other petroleum products as many

transnational pipelines run through the NMSZ and would be heavily damaged or destroyed by the earthquake. Furthermore, damage to interstate highways and secondary roads, Mississippi River bridges, railroads and airports would cause massive disruption of interstate commerce and just-in-time inventory systems across the nation, and would also cause major challenges for the economy.

In addition to these two planning efforts, Michel S. Pawlowski (Catastrophic Disaster Planning Branch Chief, michel.pawlowski@dhs.gov), Dr. Wayne Blanchard (FEMA EMI Emergency Management Higher Education Project Director, wayne.blanchard@dhs.gov), and Dr. Clair Blong (FEMA Liaison to US Northern Command, clair.blong@northcom.mil) recognized the need for the development of a higher education course on catastrophe preparedness. This course will further catastrophe preparedness and response by providing future generations of emergency managers with education addressing this emerging challenge. Furthermore, the course development project and the Catastrophe Planning Initiative are synergistic undertakings. The course developers are provided with full access to Catastrophe Planning Initiative Projects and personnel, which ensures a more comprehensive and useful course, while also garnering input on the catastrophic disaster planning projects from a team of emergency management academicians and practitioners from around the country. This integrated effort also increases the visibility of both the Planning Initiative and the course development project, which results in more people with operational and/or academic emergency management experience offering assistance with these projects. The increased visibility also makes more emergency management

professionals aware of their potential vulnerability to catastrophic events, and the need to plan for these events.

Both the FEMA planning projects and the EMI course development represent a new awareness and commitment to face the challenges of preparing to protect the public in unbelievably difficult situations. This work will have to overcome many obstacles of organizational turf, disbelief that such a thing could ever happen, and lack of political interest in anything that is not an immediate threat. However, as emergency managers throughout the nation become more aware of these projects, we expect that they will increasingly contribute to enhance our common ability to serve the public when things go very badly.

Information on Florida Catastrophe Planning can be found at <http://www.floridadisaster.org/CatastrophicPlanning> and <http://www.floridacatastrophicplanning.com/fcp/index.aspx>, while New Madrid Seismic Zone Planning information can be found at <http://www.cusec.org/>. Additional information on the Emergency Management Institute's Higher Education Program is available at <http://training.fema.gov/emiweb/edu/>. Finally, for more information about the Catastrophe Readiness and Response course development project, contact Dr. Rick Bissell (Bissell@umbc.edu) or Drew Bumbak (drew.bumbak@umbc.edu).

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REFERENCE

1. US Department of Homeland Security National Response Framework. Chapter. 2: Response Actions, 42. Available at <http://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf>. Accessed May 15 2008.