The new role of higher education in emergency management

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ABSTRACT
This paper discusses the role of higher education in hazard, disaster, emergency, risk, and crisis management, as it pertains to escalating disaster losses in the United States and an evolving emergency management profession. Given that these losses have been escalating for decades and are projected to become even larger, what is being done today in terms of emergency management is not adequate. The time is now for a new national approach to disaster-related emergency management, one that calls on colleges and universities to help bridge the gap between the emergency management body of knowledge and current practices. This paper describes one tool for bridging this gap—FEMA’s Emergency Management Institute Higher Education Project—as well as evolving educational opportunities for students and emergency management practitioners.

INTRODUCTION
In 1999, the National Academy of Sciences released a five-year study of hazards and disasters, and the response to these phenomena in the US. The study, written by Dr. Dennis Mileti, professor and director of the Natural Hazards Center at the University of Colorado at Boulder, came to “a conservative estimate” of $500 billion (in 1994 dollars) for total dollar losses from natural disasters in the past two decades. This translates into an average of $25 billion per year, but this is a conservative number, referring only to natural disaster losses and including little in the way of indirect losses. In 2001, JoAnne DeRouen Darlington and David M. Simpson put the bill for US losses due to natural disasters at approximately $50 billion per year. Dr. Raymond Burby reached a far more dramatic total of $1 trillion by including crops and standardizing losses to 1994 dollars. I assert that anything in the ballpark of about $1 billion per week in continuing disaster losses is alarmingly large.

Disaster losses are going up
One thing is clear: Disaster losses are going in one direction, and that is up. According to the Congressional Natural Hazards Caucus, “Each decade, property damage has doubled or tripled in terms of constant dollars . . . despite our unprecedented scientific understanding of the nature of natural hazards, new technology and tools for protecting lives and property, and an unparalleled ability to forecast and warn the population.” Dr. Ben Wisner points out the irony that these escalating disaster losses—true worldwide and not just in the US—took place during a decade, the 1990s, that was dubbed the International Decade for Natural Disaster Reduction.

No one has publicly said they see any light at the end of the tunnel. In 1996, the National Science and Technology Council warned that unparalleled losses could result from trends such as continued US population growth, increased urbanization and concentration in hazard-prone coastal areas, accelerated deterioration of the urban infrastructure, and emerging but unknown new vulnerabilities posed by technological advances. The Council said, “Economic losses from natural hazards will continue to rise throughout the early part of the coming century. Losses of $100 billion from individual events, and perhaps unprecedented loss of life, loom in our future.”

Losses of $100 billion are frightening, but the phrase “unprecedented loss of life” truly gives one pause. So do comments like the one made in February, 2001, by Eric Tolbert, then Director of the
North Carolina Division of Emergency Management, when he said, “In our lifetime, probably within two decades, Americans will see one or two catastrophic events that will be beyond our comprehension.” Or the chilling prediction made by Mileti in a 2001 presentation: “We build what we want to build, where we want to, the way we want to, because of our narrow short-term interests and because we don’t care that our grandchildren or great grandchildren will die as a result. Things are getting worse—and will continue to get worse no matter what we do next.”12

Throw the threat and cost of terrorism into the mix, and the bottom line is that, as a society, we are becoming increasingly more vulnerable to a growing range of hazards and threats.

**Current practices not enough**

Based on these steadily escalating disaster losses, it is obvious that we are not doing enough in the name of disaster or emergency management (EM). This is pretty much the case worldwide. According to professor David Alexander, “Despite decades of hard work by many different pan-national agencies, the world disaster management system remains in its infancy, poorly coordinated and unable to make the crucial effort to stop the relentless rise in impacts and losses.”2

To curtail the upward trend in disaster losses, risks and vulnerabilities, we must do more than tinker with current policies and practices. Mileti believes that a conceptual revolution is needed, arguing for a fundamental shift “in the character of how the nation’s citizens, communities, government, and businesses conduct themselves in relation to the natural environments they occupy . . . . The task will be to create and install ‘sustainable hazards mitigation’ in the culture of the nation.”11

Mileti’s recommended approach stands in contrast to the culture which permeates much of the EM community today, namely, a focus on more efficient and effective disaster response capabilities (by definition, a reactive approach). While such capabilities are good things to have, they do little to significantly address the reduction of losses from future disasters. For this, Mileti argues, we need to make “sustainable hazards mitigation” a priority.

Mileti is far from alone on this issue. In his 1999 statement, United Nations Secretary-General Kofi Annan3 argued that the disaster management community worldwide needs to move from a culture of reaction to one of prevention: “We can no longer afford, financially or socially, to rely only on the expectations of emergency relief when disaster strikes. Much greater attention must be paid to preventive strategies aimed at saving lives and protecting resources and assets before they are lost.” Two

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**Resume for the emergency manager of yesterday**

- **Middle- to late-middle-aged Caucasian male;**
- **Not college educated;**
- **EM was second career choice . . . or even third;**
- **Had obtained the job other than by demonstrating EM competencies;**
- **Spent career in one jurisdiction;**
- **Has reactive approach to disaster response planning, with a “command and control” style;**
- **Has worked primarily with emergency services personnel;**
- **Has a bureaucratic and technocratic approach to EM**
- **Works in isolation from community served;**
- **Plans for jurisdiction rather than with jurisdictional stakeholders;**
- **Has minimal access to top decision-makers;**
- **Has not done a risk assessment, mitigation plan or a strategic plan;**
- **Has not joined an EM professional association;**
- **Does not read hazard and disaster research literature;**
- **Resistant to change;**
- **Knowledge base learned either on the job, from others who learned on the job, or through perpetuation of past practices;**
- **Frequently part-time or volunteer; may wear other hats—or is “the other hat” (e.g., primary job is as fire department official);**
- **Not well-paid or sufficiently funded**
years later, he added, “Prevention is not only more humane than cure; it is also much cheaper.”

Still, too many disaster managers may be looking to scientists to come up with these tools. Writes professor Astrid von Kotze, “Instead of accepting responsibility for creating conditions in which the impact of a hazard can lead to disastrous consequences, disaster managers call upon scientists to find a solution to tame the hazard.” This happens in the US as well as elsewhere. While science can indeed do much to assist in the future, we have more than enough knowledge from science and the experience of lessons learned and relearned to reduce disaster losses if applied. As Mileti puts it, “Human action is not triggered by scientific research but by owning a problem and deciding to do something about it.”

The good news is that the world is in the midst of an EM evolution. Ellis Stanley, the Director of the City of Los Angeles Department of Emergency Preparedness, and William Waugh of Georgia State University, state, “The field of emergency management is finding new tools to manage hazards and to deal with disasters; it is professionalizing and promises to become one of the most challenging occupations in government.” This puts emergency managers at the front lines of those who can “do something about it.”

Education has important role to play

To paraphrase D. Alexander, knowledge may not guarantee power over natural catastrophe, but it is key to disaster prevention. This brings us to the role of colleges and universities in the development of the next generation of emergency managers. One of the goals of the FEMA is to encourage and support the spread of hazard, disaster, and emergency management-related education in colleges and universities across the US. According to FEMA, more and more emergency managers, in government as well as in business and industry, will come to the job with a college education that includes a degree or course of study in hazard management and EM. In addition, we need enhanced professional development for today’s EM practitioners and more “hazard and disaster sensitive” professionals in other fields. On this latter point, the Emergency Manager of Tomorrow

- Younger and of a more diverse background;
- College-educated, preferably with degree or degrees in EM;
- More professional and more technologically adept;
- Knowledge base is science-oriented, in hazards and disaster research;
- EM is career of first choice;
- Takes risk-based approach to EM;
- Focuses on building disaster-resilient and -resistant communities;
- Has sustainable development philosophy; takes long-term view to strategic community planning, believing that unconstrained development leads to disaster;
- Respects and defends the environment;
- Focuses on social as well as built environments;
- Seeks balance between social vulnerability and technocratic approaches to EM;
- Executive-level manager, facilitator, networker, partner, coordinator;
- Programmatically rooted in EM fundamentals, such as comprehensive EM, all four phases of the disaster life cycle, and the pursuit of integrated EM;
- Proactive versus reactive;
- Life-long learner—reads hazard and disaster research literature;
- Joins professional associations;
- Better-paid and better-funded;
- Upwardly and geographically mobile;
- Broad range of working contacts and partners, including elected and appointed officials; economic development commissions; planning and zoning boards and commissions; risk managers; building departments and code enforcement; developers and business community in general; natural resources, environmental protections and conservation communities; storm-water and floodplain managers; academia and professional organizations; and community-based organizations.
Management Institute (EMI) Higher Education Project is working with academics and institutions of higher education in efforts to integrate hazard, disaster and EM material into a wide range of curricula—society, public administration, political science, planning, etc. The day will come when city managers, urban planners, economic development staff, and industry leaders have taken EM courses as part of their majors, and EM graduates can articulate a persuasive case for disaster prevention and reduction to top elected and appointed officials, thus moving EM from the background to the board room.

When FEMA began its EMI Higher Education Project began in 1995, there were only five collegiate EM programs in the US. Today there are 89 such programs,\(^7\) which can be broken down into the following categories:

- 40 Certificates, Minors and Diploma Programs
- 12 Associate Degrees
- 8 Bachelor Degrees
- 22 Masters-Level Programs
- 7 Doctoral-Level Programs

Even before the attacks of 9/11, such programs were developing rapidly. In 2001-2002, the rate of growth has averaged approximately one new program per month—and this growth rate is continuing in 2003. In fact, at least 100 additional EM programs are being investigated, proposed or under development on college campuses across the country (more than 40 of these are described in the Programs Being Proposed/Investigated section of The College List.) These programs offer a broad range of focus. Some examples:

- Business and Industry Crisis Management
- Business and Industry Safety, Security and Loss and Accident Prevention
- Crisis, Emergency and Risk Management
- Disaster Response Operations
- Disaster Science
- Emergency Management for the Fire Service
- Emergency Planning and Response
- Emergency Services Management and or Administration
- Environmental Hazards
- General Emergency Management
- International Disaster Response/Relief Operations, Humanitarian Assistance
- Mitigation
- Practitioner Professional Development
- Public Administration and Political Science
- Public Health Related Emergency Management
- Public Safety and Criminal Justice
- Sociological Dimensions of Disaster
- Technology and Technical Applications
- Terrorism, Homeland Security and Homeland Defense

Let us all hope that these higher education initiatives related to EM perform as expected. As H.G. Wells reminds us, “Human history becomes more and more a race between education and catastrophe.” We need to win this race.

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REFERENCES
2. Alexander D: Do you want to be commanded and controlled?: Reflections on modern emergency management. 2003; on Radix website: http://online.northumbria.ac.uk/geography_research/radix/latest.htm
17. Descriptions of these programs and contacts can be found at http://training.fema.gov/emiweb/cgi-shl/college/User.cfm

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