

**Integrating Disaster Research and Practice:
An Overview of Issues***

David M. Neal

Department of Sociology and Social Work
and

Institute of Emergency Administration and Planning
P.O. Box 13438
University of North Texas
Denton, Texas 76203

This special issue of the International Journal of Mass Emergencies and Disaster resulted from a conference held at the University of North Texas in February 1991. The conference focused on issues related to integrating disaster research and practice. Both practitioners and researchers discussed the problem of delivering research to the practitioner. Thus, the resulting special issue is slightly different from most other issues of this journal.

Introduction

Perhaps for the first time, emergency management practitioners have a published forum to discuss their perspectives and needs with researchers. In addition, researchers have an opportunity to explore the practitioners' perspective of disaster research. Also, since practitioners have an academic forum to discuss their own needs, other practitioners may be more inclined to pick up the journal for the first time. Not only may they read papers by their colleagues, but they may even become intrigued by the research oriented articles in this and other issues of the journal.

The roots of the conference leading to this special issue originated from my own experiences as a researcher and many discussions with practitioners. As a graduate student with the Disaster Research Center at The Ohio

* This special issue resulted from the efforts of many people. The conference on integrating disaster research and practice was sponsored by the North Texas Sociology Federation, the Institute of Emergency Administration and Planning, the School of Community Service at the University of North Texas. I would like to thank Dean Bill Luker of the School of Community Service, Chair Susan Eve of the Department of Sociology and Social Work, and Director Robert Reed of the Institute of Emergency Administration and Planning, all of the University of North Texas. I would also like to thank Ron Perry, the editor of this journal. Without his suggestions and encouragement, this issue would not have been possible.

State University, and then as a member of the Hazard Management Group at Oak Ridge National Laboratory, I became aware and surprised at the low level of knowledge many emergency managers had about disaster and hazards research. For example, during research interviews, emergency managers expressed fears about panic, mass hysteria and looting. As another example, in Connecticut, an official told me of opening five shelters to house 10,000 evacuees during a massive flood. He expressed surprise when only five people used the shelters. While in West Virginia, a self-proclaimed flood planning expert bragged that a disaster plan was the key component of an effective emergency response during a flash flood. However, of no surprise to my colleagues and me, we found that the town actually had no disaster plan. Rather, they devised an ad hoc, successful response.

In 1989, I joined the Institute of Emergency Administration and Planning (EADP) at the University of North Texas (UNT). Involvement with the EADP's undergraduate degree in emergency management made me even more aware of the technology transfer problem between researcher and practitioner. I had the opportunity to discuss further the issue of disaster research and practice with many emergency management practitioners. In addition, I had the opportunities to begin meeting more enlightened emergency managers. For example, such practitioners as Ellis Stanley (Atlanta-Fulton County), John Pickett (Dallas, Texas), Jane Kushma and Chris Saeger (American National Red Cross), Willie Malone and Mike Simmons (FEMA Region VI), and Tom Durham (State of Tennessee) gave me faith that knowledgeable professionals existed. Also, graduates from our bachelor's program in emergency management began entering the field of emergency management, armed and ready to apply their new knowledge. Clearly, the research knowledge was getting to various types of practitioners.

During my initial months at UNT, I met and had a number of discussions with a FEMA Region VI employee and EADP/UNT graduate, Willie Malone (fortunately, the FEMA VI headquarters is located just three miles away from UNT). Before her FEMA days, Willie served as a local emergency manager. She informed me that disaster bureaucrats in federal agencies and state offices were becoming more aware of the research and trying to use it. However, she also illustrated that many users could not comprehend the research and reports. She added that many other studies just gathered dust on bookshelves, were never read, or were unknown to practitioners.

During my first year at UNT, my chair, Susan Eve, suggested I organize one of the upcoming North Texas Sociology Federation conferences. With

the applied bent of the UNT Sociology Department master's and Ph.D. program, the historical relationship between sociology and disaster research, and my joint appointment with sociology and EADP, "integrating disaster research and practice" was an easy conference topic selection.

In addition to the Sociology Federation of North Texas (i.e., the sociology departments at The University of North Texas and Texas Woman's University), the Institute of Emergency Administration and Planning at the University of North Texas sponsored the conference in February, 1991, titled "Integrating Disaster Research and Practice." Almost three hundred researchers, practitioners, and students attended this two day conference. Papers of high quality were selected for this publication from either the conference or from those submitting papers who were unable to attend the conference.

Disaster Research as an Applied Area of Study

The issue of integrating disaster research and practice is not new. In fact, much of the field of disaster research grew out of a specific applied sociological question - How can soldiers (and civilians) survive nuclear and chemical war? Specifically, the ending of World War II, the development of the Cold War, and further development of nuclear and chemical weapons forced planners to consider means of survival for nuclear and chemical war. Researchers decided that studying humans behavior during disasters provided an effective way to study human behavior under stress (see Quarantelli 1987, 1988 for excellent reviews regarding the origins of disaster research).

During the 1960s, policymakers began to realize that disaster related research could not only provide added insight for war, but also for emergency management. Various watershed events over the last two decades have highlighted further the need for integrating research and practice. Hurricane Agnes in 1972 led to the restructuring of emergency management as we know it today. The Three Mile Island incident in 1979 highlighted major multiple emergency management problems. TMI stimulated many studies and debates regarding warning, evacuation, and risk perception (for example, see Wenger 1984).

The dual disasters of 1989 (i.e., Hurricane Hugo and the Loma Prieta Earthquake) not only revealed typical problems of emergency response, but also highlighted problems that were either new to disaster, or had not previously been defined as problems (e.g., see Bolin 1990). These included massive sheltering needs, the role of ethnicity among victims during the response and recovery period, and the concept of a "catastrophic disaster."

Clearly, practitioners learned many lessons from the research undertaken during the dual disasters. While doing research in Miami following Hurricane Andrew, I observed responders from the American National Red Cross take actions to consider the large number of shelters needed, the ethnic diversity of the victims, the massive infrastructure destruction, and attempts to integrate both response and recovery activities.

Some issues stay the same. Researchers are still trying means to seek solutions to classic problems of effective organizational and emergency response. Some issues show progress. Despite the ferocity of Hurricane Andrew, an effective warning and evacuation system saved hundreds if not thousands of lives. However, new issues, as noted above, create new problems for emergency managers. In fact, practitioners and researchers like myself wonder whether the trends witnessed during and following Hurricanes Hugo and Andrew, and the Loma Prieta Earthquake, indicate that new problems may be developing. Thus, we all may need to rethink research, practice, and policy issues related to the preparation, response, recovery, and mitigation stages of disaster. Only with researchers and practitioners finding a means to work together can we try to work with new emergency management problems.

Professionalization and the Need to Bridge the Gap

An important step to bridging the gap between disaster research and practice is upgrading the practice of emergency management. Briefly, I discuss two important related trends toward the professionalization of emergency management. These include the process of being a certified emergency manager through the National Coordinating Council on Emergency Management (NCEM), and a bachelor degree program in emergency management. These steps, I believe, will continue to help bridge the gap between disaster research and emergency management practice.

At this time, NCEM is beginning its initial process of certifying emergency managers. Requirements include three years of emergency management experience, 100 classroom hours of training related to emergency management within the last five years, and 100 hours of general management training within the last five years. By 1996, candidates will also need a four-year college degree to become certified. By 1997 or 1998 NCEM will also require passing a 125-item exam covering the issues of mitigation, preparedness, response, recovery, and administration, and becoming recertified every five years.

My EADP colleagues (Robert Reed, Tom Joslin) and I served on the NCEM committee regarding the certification of emergency managers.

During these meetings, the committee firmly concluded that the field would be looked upon as more professional (and emergency managers would become more effective emergency managers) following a certification process. Simply put, members of the committee strongly urged that the profession needs to destroy the stereotype of the local emergency manager as the retired military sergeant located in the basement of the county courthouse. Through professionalization and certification, the profession can inhibit the factors (e.g., military retirement benefits help supplementing the low income, nepotism) lending some truth to the stereotype.

To provide baseline on the status of emergency managers in the United States, the committee and NCEM commissioned a scientific, random sample study of local emergencies throughout the United States (see Sample 1991 for a detailed review of sampling procedures and substantive results). The data from this study clearly revealed deficiencies and needs among local emergency managers. For example, just over 49 percent of those sampled had obtained at least a high school degree. Over seventy percent of emergency managers make under \$30,000 a year. Only 45 percent have full-time emergency management responsibility. The others have other non-emergency management duties, or are part-time employees. The implications from the data are that professionalization should generate a more legitimate field akin to the area of public administration. I believe part of this professionalization process is making local emergency managers aware and capable of reading, understanding, and applying the research. As the field becomes more professional, perhaps researchers will hear fewer complaints about "not understanding the research," since the next generation of emergency managers will have bachelor's and master's degrees, and will be exposed to research methodology and research methods.

The emergency management degree program at the University of North Texas provides a model for the training of future emergency managers. EADP provides a "liberal arts" or "all hazards" approach to emergency management. Key courses include "Introduction to Emergency Management," "Integrated Emergency Management," "Hazard Mitigation," "Hazardous Materials," "Emergency Management Leadership, and Influence," and "Case Studies." When students graduate, they have read research reports from this and other disaster journals. Graduates not only recognize the names of known researchers as Dynes, Quarantelli, Drabek, and Mileti, but understand key components of their research.

Thus, EADP trains students so they can select specific areas of emergency management during their job search. Over 200 students have graduated from the program since 1983. Various agencies and organizations such

as Federal Emergency Management Agency, The Environmental Protection Agency, The American National Red Cross, local Red Cross Chapters, Argonne National Laboratories, the State of Maryland, the State of Texas, county and city emergency management offices, Westinghouse Nuclear, and numerous environmental/hazardous materials consulting firms have hired EADP's graduates. Other graduates have selected an international perspective. One is currently the emergency manager for the County of Barbados, another is with the Red Crescent in Qatar, another served with the United Nations in Fiji, and another has worked with disaster issues in Bangladesh, Australia, and Eastern Europe.

My colleagues and I hope to see other degree programs emerge not only throughout the United States, but throughout the world. Undergraduate and future master's programs in emergency management should facilitate the technology transfer of disaster and hazard research to the practitioner.

Overview of the Papers

This special issue provides a forum for both researchers and practitioners to address the issue of integrating disaster research and practice. Quarantelli and Myers, who represent two of the oldest disaster or hazard institutes in the United States if not the world, present divergent views on the topic. Their viewpoints certainly define current and future debates on the topic.

Quarantelli presents a broad, historical overview of opportunities and barriers regarding applied disaster research and its use. Through weaving multiple points about the role of science, applying disaster research, planning and managing disasters, and predicting future disaster trends, he puts the responsibility of using the research not on the researcher, but the user.

Myers' paper presents a different perspective regarding the role of researcher and practitioner. Before joining the Natural Hazards Application and Information Center at the University of Colorado at Boulder, Myers dealt with flood plain management issues. Thus, her perspective of integrating disaster research and practice reflects a practitioner's viewpoint. She presents a thorough overview of how the Natural Hazards Application and Information Center attempts to make research available to practitioners. She also chides researchers for not making their work more accessible to the many practitioners. In addition, the papers by Myers and Quarantelli provide interesting contrasting views on integrating disaster research and practice.

Gregg Dawson, Assistant Emergency Manager for the City of Fort Worth, Texas, compares the research literature with his actual emergency management experience. Drawing upon work by Drabek, Dynes, and Quarantelli, he successfully argues that the research literature can prepare emergency managers for their positions, and that the research can remove emergency management blinders. Dawson, a graduate of the EADP/UNT program, demonstrates two key points. First, he shows how emergency managements can profit from using the research literature. Second, he acknowledges that becoming aware of the literature is an important part of becoming an emergency management professional.

Malone's paper serves two purposes. First, she provides insight on how the practitioner struggles to track down, understand, and use research. She also provides an interesting overview of materials available for practitioners. These types of sources can help researchers understand what seems important to practitioners.

Some sponsors of disaster and hazard research support applied disaster or hazard research. Yet, researchers often do not know what topics or knowledge are needed by the practitioner or policymaker. Ruberg and Keeling draw upon the Nominal Group Technique as a methodology to determine research needs as defined by emergency managers and policymakers. By using this technique among various types of emergency managers, the subjects highlight various topics defined important regarding training and education, emergency planning, mitigation, and disaster response and recovery.

The final four papers illustrate how research findings deal directly with contemporary applied disaster and hazard issues. Feldman's paper provides a nice transition between research and practice. Similar to Rossman's paper (see below), he spells out ways that research can aid the public participation process. His work is based upon the role of public participation and SARA Title III for the national program to destroy United States chemical weapons.

Phillips illustrates that new research and application issues are emerging. By looking at the recovery process following the Loma Prieta earthquake, Phillips notes the importance of considering demographic shifts in determining victimization following disaster. These findings have great implications for practitioners (e.g., FEMA, American Red Cross) involved in housing and recovery issues following a major or even catastrophic disaster. Thus, she suggests various ways that emergency managers should include ethnic diversity into disaster planning. Following the events of Hurricane Andrew, clearly such organizations as the Federal Emergency

Management Agency and the American National Red Cross have become more sensitive to these related issues.

Guarnizo's essay outlines important steps Non-Governmental Organizations (NGO) should take when dealing with international disaster response and recovery. She advocates that issues of disaster recovery/mitigation and economic development should not be compartmentalized. She also highlights institutional problems in attempting to integrate issues of disaster recovery and mitigation with issues of economic development. Such events as the flooding in Bangladesh and famine in Somalia, in addition to other developing nations on the verge of catastrophe, make this a timely work.

Rossman is a researcher for the U.S. Army Corps that also uses research in dealing with the public on environmental impact issues. Similar to Feldman's work, Rossman deals with the issue of involving the public regarding hazardous materials. He shows how various, standard methodologies and the disaster/hazard literature can be used effectively to understand and incorporate public input related to hazardous materials issues.

In summary, all the papers above address explicitly or implicitly the various ways emergency managers may benefit from disaster research. Some even show how the technology transfer of research to practice may occur.

Conclusion

This special issue, I believe, serves a number of modest purposes for researchers and emergency managers. First, I hope the topic of integrating research and practice piques the interest of emergency managers and they decide to look at this issue of the journal. In doing so, I hope they see other issues of the journal, and even explore other related disaster journals.

Second, I hope that the comments and perceptions by the practitioners catch the attention of researchers. Perhaps some researchers may consider more explicitly how they can make their research more available or usable, not only to the bureaucrats and policymakers in Washington, but to the local emergency manager in communities like my small hometown of Montpelier, Ohio (population 4100). After all, as both researchers and practitioners know, emergency management begins at home.

References

- Bolin, Robert. 1990. *The Loma Prieta Earthquake*. Monograph # 50. Boulder, Colorado: Institute of Behavioral Science, University of Colorado.

- Quarantelli, E.L. 1987. "Disaster Studies: An Analysis of the Social Factors Affecting the Development of Research in the Area." *International Journal of Mass Emergencies and Disasters*, 5:285-310.
- . 1988. "The NORC Research on the Arkansas Tornado: A Fountainhead Study." *International Journal of Mass Emergencies and Disasters*, 6:283-310.
- Sample, James. 1991. *Survey of Emergency Management Professionals on Standards/Certification Development*. Final Report to the National Coordinating Council on Emergency Management. Washington, D.C.: International City Management Association.
- Wenger, Dennis. 1984. "Introduction—The Legacy of Three Mile Island: Research and Policy Implications." *International Journal of Mass Emergencies and Disasters*, 2:5-9.