

*Research Needs for the  
Emergency Manager of the  
Twenty-first Century*



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# *General Observations and Specific Suggestions for Research on Emergency Preparedness and Response*

- Significant and rapid changes have been occurring in the field of emergency management over the past decade.
- Recent events have challenged some of the directions taken by the field over the past few years.
- Fundamental research is needed into a variety of issues

# *Observations on General, Basic Research Needs*

- There is a need for increased interdisciplinary linkages to basic research in a variety of disciplines.
  - \* Significant evidence of increased interdisciplinary work.
  - \* Future interdisciplinary research must integrate with advances being made in specific sciences that have developed independently of the applied hazard field.

# *Observations on General, Basic Research Needs*

- Applied Research on Hazards and Disasters Must be Continued.
- Increased Research on Program Evaluation Must be Undertaken.
  - \* Research into program evaluation has been limited at best, e.g., Project Impact
  - \* An opportunity for important research on community mitigation efforts was lost.

# *Needed Research on Emergency Preparedness and Response*

- Research must examine the theoretical and practical limitations of an “all-hazards” approach to emergency management.
  - \* The movement to an “all-hazards” approach has been a hallmark of emergency management over the past decade
  - \* Social science researchers have applauded this development

# *The Theoretical and Practical Limitations of an “all-hazard” approach*

- Research into the theoretical and practical limitations is needed:
  - \* Are there differences in the collective stress situations caused by terrorist attacks that are not conceptually equivalent to those produced by hurricanes and earthquakes?
  - \* What emergency management elements are “all-hazard” in nature, and which are not?

# *Needed Research on Emergency Preparedness and Response*

- Optimizing the Organizational Structure of Local Emergency Management Agencies
  - \* There is great diversity in the organizational structure of local emergency management, and it would be foolish to imagine a universal model of organization that would be applicable to all communities.

# *Optimizing the Organizational Structure of Local Emergency Management*

- Research is needed into the strengths, weaknesses, and “goodness of fit” between current models and local emergency management effectiveness.
  - \* Should emergency management arrangements in communities under 50,000 be integrated into other organizations or be autonomous?
  - \* What are the costs and benefits of integrating emergency management into the broader, normal urban planning activities?
  - \* With the current emphasis upon homeland security, what is the optimal relationship between local emergency management and law enforcement?

# *Needed Research on Emergency Preparedness and Response*

- Reopening Research on Warning and Risk Communication
  - \* By 1990 it was widely understood that this was the field in which the greatest research progress had been made.
  - \* New Research in this area was not a high priority item

# *Reopening Research on Warning and Risk Communication*

- Societal and technological changes have seriously challenged the applicability of our dated findings on warning to current conditions.
  - \* What have been the impact of technological innovations on warning?
  - \* To what degree do our old theoretical and conceptual notions about warning still apply?
  - \* Should our concept of a “warning system” be reevaluated?

# *Needed Research on Emergency Preparedness and Response*

- The Effectiveness of Community-wide Preparedness and Response Efforts
  - \* LEPCs, CERTs, and other citizen and volunteer training programs rose during the 1990's.
  - \* Researchers praised these programs for making emergency management more inclusive and being responsive to research findings in such areas as search and rescue.

# *The Effectiveness of Community-wide Preparedness and Response Efforts*

- Research is needed on the future of these programs:
  - \* What are the obstacles and facilitators for maintaining neighborhood teams?
  - \* Are citizen efforts adequately linked to other emergency organizations?
  - \* Are these volunteer efforts effective and appropriate for all types of hazards, including homeland security?

# *Needed Research on Emergency Preparedness and Response*

- The Effectiveness of Alternative Models for Managing Emergency Response
  - \* The Incident Command System (ICS) has become the dominant response model.
  - \* Disaster researchers have developed alternative models that emphasize decentralized, adaptable, resilient, and flexible organizational responses.
  - \* The effectiveness of these two alternative models is deserving of serious research

# *Needed Research on Emergency Preparedness and Response*

- The Effectiveness of Alternative Population Protection Measures
  - \* Multidisciplinary research is needed into the efficacy of utilizing evacuation, in-place sheltering, mass inoculation and mass quarantine.
  - \* The appropriateness and limitations of these measures for a wide variety of natural, biological, chemical, and nuclear hazards must be examined.