Decisions in Disaster: Smart People, Smart Institutions?

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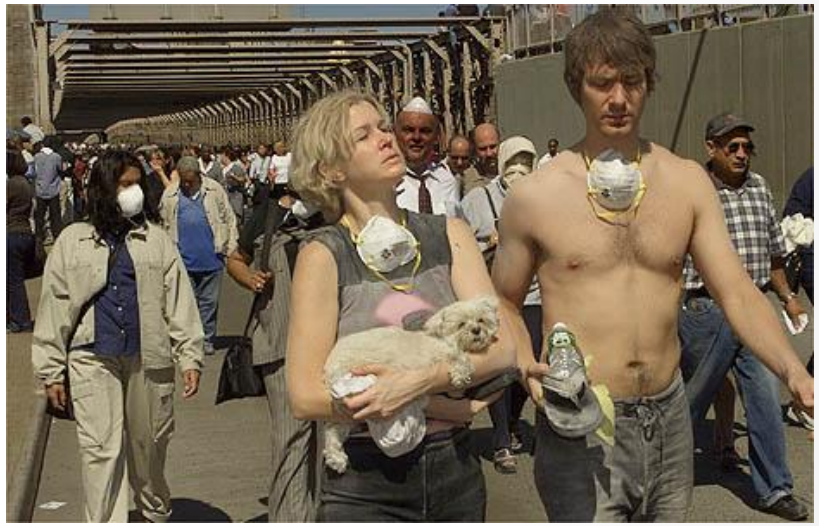
General Background

- Social science research on disaster decision making has been ongoing in the United States since the late 1940s
- Studies have focused on both the micro level (individuals and groups) and the macro level (organizations, institutions)
- Research has focused on a broad range of extreme events: disasters triggered by natural forces, major technological failures, intentional acts of terrorism
- Findings are consistent across various types of extreme events

Key Points

- Disaster decision making at the micro level—individuals and groups—is positive and productive.

- Findings on organizational and institutional decisions during disasters are more mixed.



Key Points

1. **Disaster decision making at the micro level—individuals and groups—is positive and productive.**

   From early studies to the present, research shows that crisis decision making in affected population is rapid and leads to appropriate actions.

   Pro-social behavior predominates, and many disaster-related problems are solved strictly through individual and group action without the involvement of formal organizations or institutions.

Some Examples: Evacuation

Toronto, August 2, 2005

297 Passengers and 12 crew evacuated in 3 minutes

No deaths, 43 minor injuries

Okinawa, August 20, 2007

157 passengers and 8 crew evacuated in about 2 minutes

No injuries to plane occupants

Emergent Groups

Mexico City 1985

Oakland 1989

"In Southern Italy in 1980, 90 percent of survivors of an earthquake were extricated by untrained, uninjured survivors who used their bare hands and simple tools…Following the 1976 Tangshan earthquake, about 200,000 to 300,000 entrapped people crawled out of the debris on their own and went on to rescue others…it was to their credit that more than 80 percent of those buried under the debris were rescued. Thus, lifesaving efforts in a stricken community rely heavily on the capabilities of relatively untrained survivors, including untrained volunteers, as well as those of local firefighters and other relevant personnel."

--Eric Noji, ***The Public Health Consequences of Disasters (1997)***

Emergent Groups

- Hurricane Katrina

Citizen Rescuers

The "Cajun Navy"

Emergent Groups and Volunteering

- 1985 Mexico City earthquake: An estimated 1.8 million volunteers
- 1995 Kobe earthquake: Over 1 million volunteers; earthquake signals the "first year of the volunteer," major legislative changes in the treatment of the non-profit sector
- 2001 World Trade Center attacks: Tens of thousands of volunteers, numerous emergent groups
- 2011 Great Tohoku earthquake: An estimated 500,000 volunteers have been active in the impact region

Key Points

2. **Findings on organizational and institutional decisions during disasters are more mixed**

   Examples of rapid and appropriate decision making exist alongside instances of flawed decision making and persistent institutional pathologies.

The Good News

- **Facing unexpected disaster demands and under conditions of uncertainty, many organizations and institutions make sound decisions on the fly**

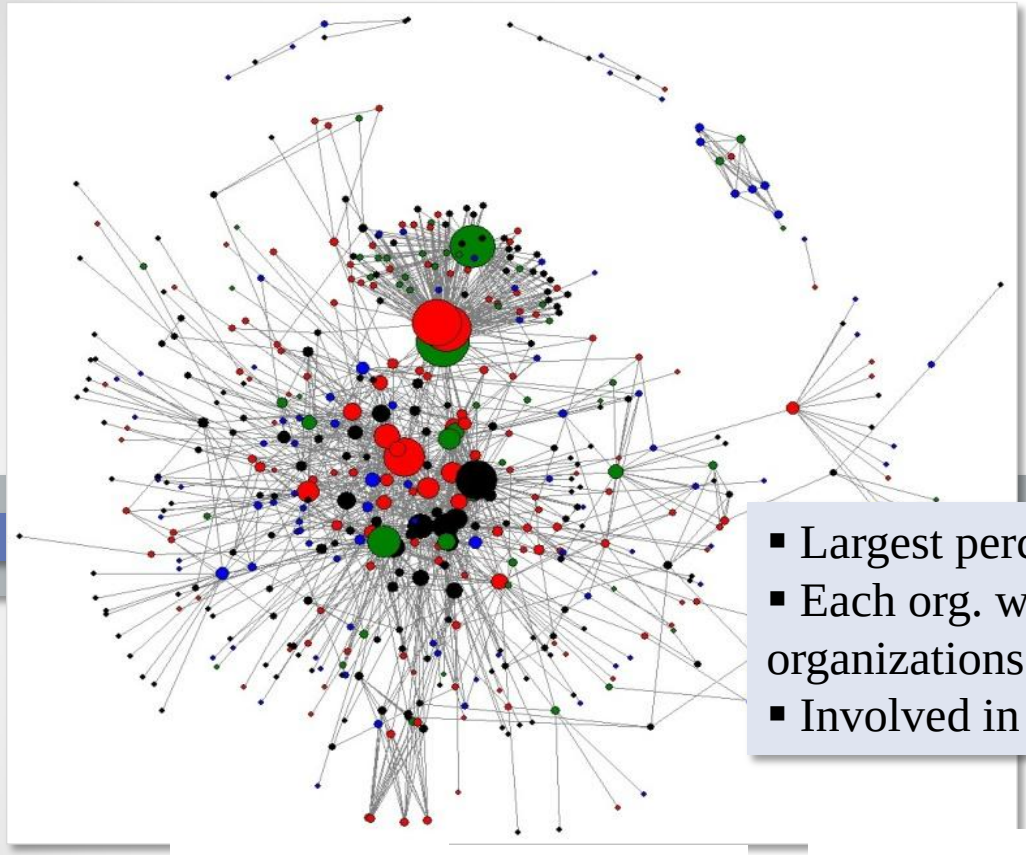
- **Numerous examples of organizational improvisation, adaptation during disasters**

Improvisation in Action

WTC Building 7,
Sept. 11, 2001

Improvised New York City Emergency Operations Center, Pier 92

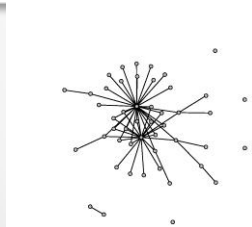
Large-Scale Improvisation: Emergent Multi-Organizational Networks in Disaster



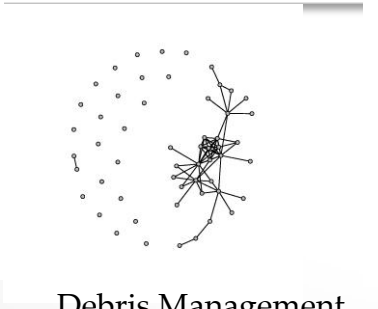
717 Organizations
6,661 Actions and interactions
42 Tasks

8 Scales of operation
4 Types of organizations

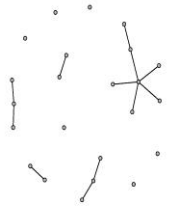
- Largest percentage of organizations were government
- Each org. worked with average of 8 other organizations
- Involved in 2-3 tasks each (range 1-27)



Credentialing



Debris Management



Forensic Investigation

Christine Bevc, "Working on the Edge: A Study of Multi-organizational Networks…in the World Trade Center Attack."

The Bad News

- **Organizations and institutions can fall prey to decision making pathologies in disasters**

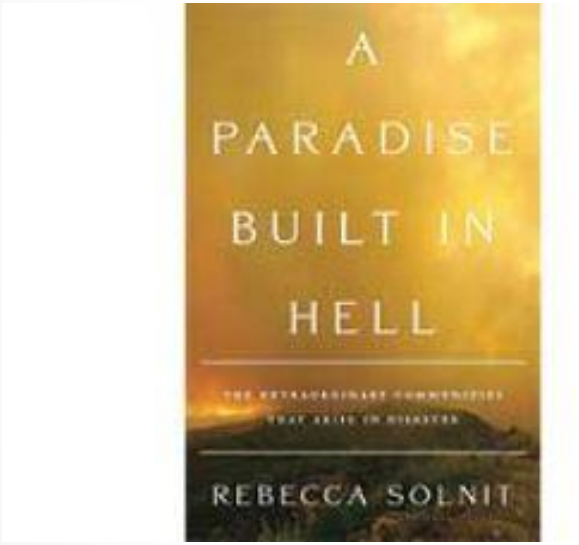
  Adherence to "command and control" thinking

  "Elite panic"

Command and Control Thinking: Characteristics

- Centralized information processing and decision making
- Deference to established authority, hierarchy
- Lack of deference to "on-the-ground" information sources, local expertise, and improvised action
- Preoccupation with rules and procedures

Elite Panic



- Concept originally formulated by Lee Clarke and Caron Chess
- Featured prominently in Rebecca Solnit's *A Paradise Built in Hell: The Extraordinary Communities That Arise in Disaster (2009)*

Elite Panic: Characteristics

- Fear of public disorder, lawlessness in disasters
- Fear of public panic
- Reluctance to communicate openly, candidly with the public
- Concerns with maintaining command and control structures, even through violence

Elite Panic: Examples

- San Francisco earthquake, 1906, shoot-to-kill orders against "looters"
- Great Kanto earthquake, 1923, government-led pogrom against ethnic Koreans, socialists and other dissidents: 2,000-6,000 killed
- Hurricane Katrina, 2005, militaristic response to catastrophe in New Orleans: 52,000 armed services personnel deployed
- Great Tohoku earthquake, 2011, government paralysis, secrecy regarding Fukushima radiation threat

Concluding Thoughts:

Disaster Decision Making

- The best decisions are often made by those closest to events as they unfold: residents of stricken areas and officials on-scene
- Disasters are "managed" not by hierarchies but by diverse and often diffuse networks that lack centralized authority
- Decisions typically involve improvisation, not adherence to rules

Concluding Question:

How can we design institutions that are capable of adapting to the decision making demands disasters create?

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