

## Lecture Notes: Disaster Vulnerability and Resilience

### Session 7

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### Disasters and Social Vulnerability: Insights from Theory and Research

#### Speaker Background:

- I. Natural Hazards Center at University of Colorado:
  - a. Information Clearinghouse on social, political, economic impacts of natural disasters
  - b. Hazlit (searchable database)
  - c. Newsletter “Natural Hazards Observer”
  - d. Listserve for grad students: DisasterGrad
  - e. Funds quick response research
- II. Research:
  - a. Organizational and Community response to Sept. 11 attacks in NYC
  - b. Disaster response in other countries
  - c. Research on risk perception and communication
  - d. Warning systems, warning response
  - e. Business impact on natural disasters

#### Overview of Field

- III. What is a Disaster?
  - a. Can disasters be distinguished from
    - i. Hazards? (Yes, usually distinguished from disasters)
    - ii. Chronic or Long-Term Environmental Hazards?
    - iii. Slow-Onset Events?
    - iv. Epidemics?
    - v. “Dissensus” Crises Affecting Communities, Societies: Riots, Communal Violence? (Yes, often a distinction is made)
    - vi. War?
    - vii. Mass Migrations, Humanitarian Crises?
  - b. Mainstream definition: A disaster is the intersection of a hazard event with vulnerable exposures.
- IV. Contrasting Paradigms for Understanding Disasters:
  - a. Classical or Systems Paradigm:
    - i. Charles Fritz quote
    - ii. Notion that disasters are events measured in terms of the extent of disruption to a social system.
    - iii. Primary Assumptions:
      1. Societies and communities are social systems organized around essential functions.
      2. Disasters constitute crises for social systems, forcing social units to adapt.

3. Disasters originate in the environment and impinge upon social systems.
- iv. Shortcomings of the Systems Perspective:
  1. Focused on the point at which the event occurs;
  2. Neglects the fact that communities and societies are not often smoothly operating systems, but instead are characterized by a diversity of subunits within societies, communities, yielding the possibility of differential impacts;
  3. Ignores the fact that the root causes of disasters are embedded in social systems.
- b. Vulnerability Paradigm
  - i. Overview:
    1. Sees causes of disasters as internal to the social order; i.e. societies produce the disasters of the future.
    2. Sees disasters as experienced differently by different social units, groups within communities and societies. Emphasizes the need to focus on groups with differential vulnerability and differential capacity.
      - a. Recent research has explored what are these axes of vulnerability?
    3. Sees society not as an integrated “system” but rather as characterized by inequality and the potential for conflict.
  - ii. Three main ideas:
    1. Disasters are socially produced
    2. Vulnerability is linked to societal factors and their interaction with hazard events
    3. Groups within society are differentially vulnerable.
  - iii. Progression of Vulnerability (from Blaikie, et al, 1994, “At Risk”):
    1. Root causes
    2. Dynamic pressures
    3. Pressures producing unsafe conditions
    4. Interaction with hazard event yields a disaster.
  - iv. Contributors to Vulnerability:
    1. Hazardousness of place:
      - a. Can look at whether hazardousness is growing or declining.
      - b. Southern US Coast:
        - i. Coastal development along the U.S. has increased
        - ii. Hurricanes are returning to their historic pattern of coming all the way into the coast and hitting land.
        - iii. Potential for disaster has increased.
    2. Vulnerability of the Built Environment:
      - a. Bam Earthquake:

- i. Most people died because their adobe construction was highly vulnerable to earthquake damage
      - ii. 6.4 magnitude, near surface of the earth
      - iii. Most people in bed (5am) and killed outright.
  - 3. Event and Consequence Vulnerability
    - a. Who prepares?
    - b. Who suffers disproportionate losses?
      - i. Many experiences differ from that of the mainstream
      - ii. People experience disaster in different ways and experience different types of vulnerability.
    - c. Who is more resilient, able to recover?
  - 4. Vulnerability is Related to:
    - a. Income levels
    - b. Education Levels
    - c. Minority status
    - d. Gender
    - e. Language Isolation
    - f. Citizenship status
    - g. Disability
    - h. Resource access
    - i. Social capital
- c. Event Vulnerability Cases
- i. Saragosa, Texas, Tornado (Linguistic Vulnerability)
    - 1. Community of about 400 people, primarily Spanish-speaking;
    - 2. A tornado was detected on a path toward the community;
    - 3. Tornado warnings were issued for the area in English;
    - 4. People living in Saragosa didn't speak much English, and didn't consume English-language media;
      - a. By the time Spanish-language media began translating warning, it was too late for many to take shelter.
    - 5. Many U.S. information resources are exclusively in English.
  - ii. Mobile Homes and Tornado-Related Mortality
    - 1. Poor people live in more vulnerable types of housing stock than wealthier people do;
    - 2. Tornado-related mortality for people living in mobile homes is shockingly higher than for people living in other types of housing;
    - 3. Most mobile home parks have no additional refuge areas outside of the mobile homes;

4. In U.S. society, people with limited resources have limited options for their housing and cannot compete for safer options.
- iii. Gender, Age and Mortality
  1. Demographic factors can affect disaster mortality;
  2. Very young and very old are more vulnerable;
  3. Gender roles that people play in society may make them more vulnerable to certain types of disaster:
    - a. Men may be more vulnerable to lightening;
    - b. Women in childcare may be in more vulnerable situations in disasters.
  4. Risk of homelessness is greater for those living in substandard housing.
- iv. *Heatwave* (2002): A Social Autopsy of Disaster
  1. Study of the Chicago Heat Wave that killed around 800 people;
  2. Social and neighborhood factors were associated with death in the heat wave.
  3. It compared a neighborhood with high mortality with one that had comparatively low mortality even though they were in proximity and were similar economically but demographically distinct:
    - a. African-American neighborhood, deteriorated, people not connected to one another;
    - b. Hispanic neighborhood vibrant, close-knit socially.
  4. Death risk was associated with age and social isolation, and neighborhood characteristics: deterioration of building stock, crime, fear of crime, high vacancy.
    - a. Elderly people not wanting to leave their houses kept them from taking advantage of cooling centers.
- v. Income, Ethnicity, Household Composition, and Evacuation:
  1. What make evacuating easier:
    - a. Transportation: car, gasoline;
    - b. Place to stay: hotel, motel, family, friends;
    - c. Job that pays you to evacuate.
  2. People with lower income, fewer resources may not have access to transportation, may not have a place to stay, etc.;
  3. Members of different ethnic groups have different household compositions; may have transportation problems;
  4. Gender comes into play for evacuation decisions in terms of gender roles within the family.
- d. Consequence Vulnerability:
  - i. Once an event happens, people have differential capacity to recover:
    1. Differential Access to Aid

- a. Hurricane Andrew: “Non-traditional” living arrangements were shut out of post-disaster assistance;
  - b. Citizens, Legal Residents, have access to aid while the Undocumented can only access emergency response;
  - c. Homeowners have access to a much wider range of aid than renters.
2. Vulnerability to Post-Disaster Stressors:
- a. High losses
  - b. Poor post-disaster living arrangements
  - c. Single-parent families
  - d. Greater debt
  - e. Pre-existing problems: mental health problems, social marginality, poverty

Book Series: Joseph Henry Press “Second Assessment of Research” Series

- V. Looks at advances in theory, research, and policy in the 25 years since the first assessment of natural hazards was conducted by Gilbert White and his colleagues in the early 1970s.
  - a. Titles:
    - i. American Hazardscapes
    - ii. Paying the Price
    - iii. Disasters by Design
    - iv. Facing the Unexpected
    - v. Cooperating with Nature
  - b. Website: [www.colorado.edu/hazards](http://www.colorado.edu/hazards)

Recommended Reading:

Fran H. Norris and her co-authors, “60,000 Disaster Victims Speak” Parts I and II  
Psychiatry, Vol. 62, No. 3, Fall, 2002.