

Session No. 26

Course Title: Social Dimensions of Disaster, 2nd edition

Session 26: Disaster Recovery and Community Change

1 hr.

Objectives:

- 26.1 Describe three key variations in post-disaster recovery assistance received by victims
- 26.2 Discuss four key issues and functions in the disaster recovery process
- 26.3 Describe three managerial and three community characteristics that constrain the disaster recovery process
- 26.4 Discuss the major forms of non-local disaster recovery assistance
- 26.5 Describe and illustrate the ten steps in holistic disaster recovery in local communities
- 26.6 Discuss at least four major research conclusions on post-disaster community change.

Scope:

This session introduces students to key variations, issues, and functions in the disaster recovery process. Major forms of non-local disaster recovery assistance and conclusions on post-disaster community change are included.

Readings:

Student Reading:

Beggs, John J., Valerie A. Haines, and Jeanne S. Hurlbert. 1996. "The Effects of Personal Network and Local Community Contexts on the Receipt of Formal Aid During Disaster Recovery." *International Journal of Mass Emergencies and Disasters* 14:57-78.

Professor Readings:

Rubin, Claire B. 1991. "Recovery From Disaster." Pp. 224-259 in *Emergency Management: Principles and Practice for Local Government*, edited by Thomas E. Drabek and Gerard J. Hoetmer. Washington, D.C.: International City Management Association.

Sullivan, Mark. 2003. "Communities and Their Experience of Disasters." *Australian Journal of Emergency Management* 18 (No. 1):19-26.

Cohan, Catherine L. and Steve W. Cole. 2002. "Life Course Transitions and Natural Disaster: Marriage, Birth, and Divorce Following Hurricane Hugo." *Journal of Family Psychology* 16:14-25.

Monday, Jacquelyn L. 2002. "Building Back Better: Creating a Sustainable Community After Disaster." *Natural Hazards Informer* Number 3:1-11.

Scanlon, T. Joseph and John Handmer. 2001. "The Halifax Explosion and the Port Arthur Massacre: Testing Samuel Henry Prince's Ideas." *International Journal of Mass Emergencies and Disasters* 19:181-208.

Background References:

Edwards, Bob, Marieke Van Willigen, Stephanie Lormand, Jayme Currie with Kristina Bye, John Maiolo, and Ken Wilson. 2000. "An Analysis of the Socioeconomic Impact of Hurricane Floyd and Related Flooding on Students at East Carolina University." (Quick Response Report #129). Boulder, Colorado: Natural Hazards Research and Applications Information Center, University of Colorado.

Morrow, Betty Hearn and Walter Gillis Peacock. 1997. "Disasters and Social Change: Hurricane Andrew and the Reshaping of Miami?" Pp. 226-242 in *Hurricane Andrew: Ethnicity, Gender and the Sociology of Disasters* edited by Walter Gillis Peacock, Betty Hearn Morrow and Hugh Gladwin. London: Routledge.

Rossi, Ino. 2000. "Post-disaster Reconstruction and Economic Development: A Methodology for the Utilization of Public Information Data." *Australian Journal of Emergency Management* 15 (No. 2):2-7.

Bates, Frederick L. and Walter G. Peacock. 1987. "Disaster and Social Change." Pp. 291-330 in *Sociology of Disasters: Contributions of Sociology to Disaster Research*, edited by Russell R. Dynes, Bruna DeMarchi, and Carlo Pelanda. Milano, Italy: Franco Angeli.

Nigg, Joanne M. 1995. "Disaster Recovery As a Social Process." Pp. 81-92 in *Wellington After the Quake: The Challenge of Rebuilding*. Wellington, New Zealand: The Earthquake Commission.

Haas, J. Eugene, Robert W. Kates, and Martyn J. Bowden, (eds.). 1977. *Reconstruction Following Disaster*. Cambridge, Massachusetts: The MIT Press.

General Requirements:

Overheads (26-1 through 26-13 appended).

See individual requirements for each objective.

Objective 26.1 Describe three key variations in post-disaster recovery assistance received by victims.

Requirements:

Use Overheads 26-1 through 26-5.

Start this session with student exercise and proceed with lecture material specified below.

Remarks:

I. Introduction.

A. **Exercise.**

1. **Remind** students of exercise procedures.
2. **Divide** class into four groups and assign roles.
 - a. Chair.
 - b. Reporter.
 - c. Timer.

3. **Announce** time limit: 5 minutes.

B. **Display** Overhead 26-1; “Workshop Tasks.”

1. Group 1 - Summarize the event studied, locale, and the research methods used by Beggs et al. (1996).
2. Group 2 – According to Beggs et al. (1996), what are the key social factors that constrained the receipt of aid from organizations (any received and the number) following Hurricane Andrew?

3. Group 3 – According to Beggs et al. (1996), what are the key social factors that constrained the receipt of aid from FEMA and the Red Cross following Hurricane Andrew?
4. Group 4 – According to Beggs et al. (1996), what are the key social factors that constrained the receipt of aid from churches and other organizations following Hurricane Andrew?

C. **Start** discussion.

D. **Stop** discussion.

II. A study of post-disaster recovery assistance (Beggs et al. 1996).

A. Group 1 report: 2 minutes.

B. **Display** Overhead 26-2; “Post-Disaster Assistance Study” (Beggs et al. 1996).

C. **Review** topics on Overhead and **integrate** with Group 1 report.

1. **Event:** Hurricane Andrew (August, 1992).
2. **Locale studied:** Southwestern Louisiana (p. 62).
 - a. Two adjacent parishes.
 - b. Three towns plus nearby rural areas with the same zip codes.
3. **Research methods** (pp. 62-65).
 - a. Random sample (n = 594) from list of telephone numbers.
 - b. Telephone interviews.
4. **Remind** students of the study appendix in which all variables are listed (p. 75).
5. **Review** a few examples of each type of variable.
6. **Outcome variables** (source of aid) (p. 75).
 - a. FEMA.
 - b. Red Cross.

- c. Churches.
- d. Other organizations.
- e. Food stamps.
- f. Total number of organizations from which aid was received.
- g. Received aid from any organization.

7. Individual Level Characteristics (p. 74).

- a. Age.
- b. Education.
- c. Marital status.
- d. Gender.
- e. Race.
- f. Family income.
- g. 6 additional characteristics.

8. Personal Network Context (p. 75).

- a. Mean age.
- b. Proportion male.
- c. Density.
- d. 4 additional network qualities.

9. Community context (percent owner-occupied).

10. Control variables.

- a. Informal assistance (yes or no).
- b. Amount of informal assistance.
- c. Home ownership.

- III. Constraints on receipt of aid from organizations.
 - A. Group 2 report: 2 minutes.
 - B. **Display** Overhead 26-3; “Constraints on Receipt of Aid From Organizations”.
 - C. **Review** key constraints listed on Overhead; **integrate** with Group 2 report; **illustrate** as required (adapted from pp. 65-67).
 - 1. Received aid from any organization (Model 2).
 - a. **Damage to home** (greater).
 - b. **Family income** (lower).
 - c. **House insurance** (none).
 - d. **Personal network density** (lower).
 - e. **Personal network geographic range** (greater).
 - f. **Owner-occupancy** (higher).
 - 2. Received aid from more organizations (Model 2).
 - a. **Damage to home** (greater).
 - b. **Race** (non-white).
 - c. **Family income** (lower).
 - d. **House insurance** (none).
 - e. **Personal network geographic range** (greater).
 - f. **Owner-occupancy** (higher).
- IV. Constraints on receipt of aid from FEMA and Red Cross.
 - A. Group 3 report: 2 minutes.
 - B. **Display** Overhead 26-4; “Constraints on Receipt of Aid From FEMA and Red Cross.”
 - C. **Review** key constraints listed on Overhead; **integrate** with Group 3 report; **illustrate** as required (adapted from pp. 67-68).

1. Received aid from FEMA (Model 2).
 - a. **Gender** (male).
 - b. **House insurance** (none).
 - c. **Damage to house** (greater).
 - d. **Household size** (larger).
 - e. **Personal network geographic range** (larger).

2. Received aid from Red Cross (Model 2).
 - a. **Damage to house** (greater).
 - b. **Age** (younger).
 - c. **Race** (non-white).
 - d. **Family income** (lower).

V. Constraints on receipt of aid from churches and other organizations.

A. Group 4 report: 2 minutes.

B. **Display** Overhead 26-5; “Constraints on Receipt of Aid From Churches and Other Organizations.”

C. **Review** key constraints listed on Overhead; **integrate** with Group 4 report; **illustrate** as required (adapted from pp. 67-69).

1. Received aid from churches (Model 2).
 - a. **Race** (non-white).
 - b. **Personal network size** (greater).
 - c. **Personal network density** (lower).
 - d. **Personal network proportion male** (high).
 - e. **Owner-occupancy** (higher).

2. Received aid from other organizations.

- a. **Age** (older).
- b. **Marital status** (married).
- c. **Race** (white).
- d. **Hurricane experience** (no).

VI. Conclusions and implications.

A. **Microsystems**, such as households, **differ** in the amount and sources from which post-disaster recovery assistance is received.

B. Results from Beggs et al. (1996) study **document variations** in the social factors that constrain the extent of aid received from different sources.

- 1. **Example:** “None of our measures of personal network or local community contexts has a significant effect on aid from the Red Cross, or on aid from other organizations.” (p. 72).
- 2. **Example:** “Geographic range is the only contextual variable that has a significant effect on the receipt of aid from FEMA.” (p. 72).

C. **Additional research** should be initiated that explores these and other pattern variations in the receipt of post-disaster assistance among victims of numerous types of disaster events.

D. **Ask students:** “Now that you have reviewed this study in detail, what types of future research are needed?”

- 1. **Answer:** parallel studies with different disaster agents and locales.
- 2. **Recommendation:** discussion of two or three alternative study designs would enhance student understanding of the range of research needs highlighted by this study.

Supplemental Considerations:

The **key message** of this section is that microsystems can serve as **units of analysis** in understanding disaster recovery and change. Many professors will choose to limit this section to brief discussion of the group reports and materials on the Overheads. Others may **expand** this section through more detailed discussion of **future research study designs**. Depending on the course context, some will wish to explore the range of **policy issues** implied in the focal study by posing such questions as these: “What are the

implications of these results for emergency managers?” “How would you summarize these results for a training session with Red Cross chapter directors or church personnel?”

Objective 26.2 Discuss four key issues and functions in the disaster recovery process.

Requirements:

Use Overheads 26-6 and 26-7.

Remarks:

- I. Key issues in disaster recovery.
 - A. **Ask students:** “Based on your reading throughout this course, what would you specify as the types of key issues that local government officials commonly confront during disaster recovery?”
 - B. **Record:** List student examples on the chalkboard.
 - C. **Explain:** Haas et al. study (1977).
 1. **Events:**
 - a. Rapid City, South Dakota; flash flood; June, 1972.
 - b. San Francisco, California; earthquake, April, 1906.
 - c. Anchorage, Alaska; earthquake; March, 1964.
 - d. Managua, Nicaragua; earthquake; December, 1972.
 2. **Field studies** were conducted following the flood in Rapid City and the earthquake in Managua.
 3. **Historical** sources were analyzed to assess the recovery processes in San Francisco and Anchorage.
 - a. Haas and Kates completed extensive field work in Alaska immediately after the 1964 earthquake (e.g., Committee on the Alaska Earthquake 1970).
 - b. Boden’s doctoral dissertation was a study of the growth of San Francisco from 1850-1931; University of California, Berkeley (see Haas et al. 1977, p. 308).

- D. **Display** Overhead 26-6; “Seven Disaster Recovery Issues.”
- E. **Review** the seven issues listed on the Overhead and **integrate** with student generated examples.
1. What decision-making mechanisms should be used to decide how, when, and where to rebuild?
 2. Should there be changes in land use?
 3. Should there be changes in building codes?
 4. Should there be an effort to make the city more efficient and attractive?
 5. Should there be compensation or special financial assistance for private property loss?
 6. How should disaster-produced personal and family problems be handled?
 7. How should increased local public expenditures be financed?
- II. Key community functions.
- A. **Ask students:** “Given these and other types of recovery issues, what types of major functions must local governments perform during disaster recovery?”
- B. **Record:** list student examples on the chalkboard.
- C. **Explain:** Rubin study (1991).
1. **Extensive review** of prior research, e.g., Haas et al. 1977.
 2. **Field research** following flooding in Marin County and Santa Cruz, California (1982).
- D. **Display** Overhead 26-7; “Seven Recovery Functions”.
- E. **Review** the seven functions listed on the Overhead; **integrate** with student generated examples; and **illustrate** as required.
1. Information gathering and assessment.
 2. Organizational arrangements.

3. Resource mobilization.
4. Planning, administration, and budgeting.
5. Regulation and approval.
6. Coordination and interorganization relations.
7. Monitoring and evaluation.

Supplemental Considerations:

The **key message** of this section is that disaster recovery may be approached at the more **macrosystem** level of the community as opposed to the **microsystem** level of the individual or family. When approached at the community level, the range of **issues and functions differ** from those assessed within Microsystems. Skilled emergency managers must become adept at **shifting levels of abstraction**, so as to conceptualize disaster recovery processes with different units of analysis.

Objective 26.3 Describe three managerial and three community characteristics that constrain the disaster recovery process.

Requirements:

Use Overheads 26-8 and 26-9.

Remarks:

- I. Managerial constraints.
 - A. **Ask students:** “Not all communities recover from disaster at the same pace. While all confront challenges, some have leaders who reflect certain qualities or characteristics that seem to help them recover more quickly and with less pain for everyone involved. Based on your reading to date, what would you propose as some of the differentiating managerial characteristics? What might characterize the managers in a community that recovered from a disaster more quickly?”
 - B. **Record:** list student examples on the chalkboard.
 - C. **Explain:** Rubin et al. study (1985).
 1. **Researchers:** Claire B. Rubin, Martin D. Saperstein and Daniel G. Barber (citation: *Community Recovery From a Major Natural*

Disaster. Boulder, Colorado: Program on Environment and Behavior, University of Colorado, 1985) (as summarized in Rubin, 1991).

2. Case studies in 14 communities.
3. In some communities, the officials were more effective.
 - a. More productive intergovernmental relationships.
 - b. More success in competing for scarce resources.
 - c. Better management of community-level decision making.
 - d. Rubin et al. 1985 propose that the constraints they identified could be used to rate the relative strengths and weaknesses within a city or county.

D. **Display** Overhead 26-8; “Managerial Constraints”.

E. **Review** qualities listed on the overhead and **integrate** with student generated examples. **Elaborate** and illustrate as required (adapted from Rubin, 1991, p. 233).

1. **Personal leadership.**

- a. Local decision making.
- b. Priority of intergovernmental relations.
- c. Redevelopment of damaged areas.
- d. Long-range view of rebuilt community.
- e. Ability to marshal internal and external resources.

2. **Ability to act.**

- a. Availability of state and federal resources.
- b. Reliance on local rather than external resources.
- c. Local administrative and technical capability.
- d. Horizontal and vertical intergovernmental relationships.

3. **Knowing what to do.**

- a. Local knowledge of requirements for state and federal assistance.
- b. Identification of sources of assistance.
- c. Realistic, flexible, and current preparedness plans.

II. Community constraints.

A. **Ask students:** “Some researchers have worked at the community level of analysis. What qualities do you think would differentiate among communities? What qualities might be more crucial in defining community recovery capacity?”

B. **Record:** list student examples on the chalkboard.

C. **Explain:** Sullivan research (2003).

1. **Review of community studies** and disaster recovery processes resulted in validation of research by Haas et al. (1977) that:

- a. “. . . emergencies merely serve to accelerate a community’s normal evolutionary progression.” (Sullivan 2003, p. 22).
- b. “. . . whilst emergencies force a community to rethink and rebuild, this rethinking and rebuilding is conducted consistently with that which would have taken place in the absence of the emergency, but which would have occurred over a greater period of time.” (Sullivan 2003, p. 22).

2. **All communities differ** from one another.

- a. Historical uniqueness.
- b. Date of origin; time to develop.
- c. Environmental resources, e.g., proximity to rivers, minerals, etc.

3. **Common dimensions** of disaster recovery or conversely, **vulnerability** may be identified.

4. **Display** Overhead 26-9; “Community Dimensions of Vulnerability.”

5. **Review** the dimensions listed on the overhead and **integrate** with student generated examples (adapted from Sullivan 2003, p. 21).

- a. **Geographic isolation of community** (low).
 - 1) **Explain:** “Low” on this dimension is reflective of a low level of vulnerability according to Sullivan (2003).
 - 2) **Explain:** “low” levels on this dimension might be regarded by other researchers as reflective of a **high level** of disaster recovery capacity.
 - 3) **Parallel interpretations** apply to all other dimensions.
- b. **Community member isolation** (low).
- c. **Self sufficiency** (high).
- d. **Community spirit** (high).
- e. **Family dispersal** (low).
- f. **Geographic mobility** (high).
- g. **Equality of distribution of authority** (high).
- h. **Community conflict** (low).
- i. **Risk awareness** (high).
- j. **Resilience to a recognized source of risk** (high).
- k. **Level of response and recovery preparedness** (high).
- l. **Economic viability** (pre-event) (high).

Supplemental Considerations:

Some professors may wish to remind students of the material in the prior session (No. 24, “Community Responses to Disaster”; Objective 25) wherein **community characteristics** that constrain disaster responses have examined, e.g., “familism,” “integration,” etc. Guided discussion of the **similarities** in the documented qualities that **constrain** initial responses to disaster and those proposed by Sullivan and Rubin regarding **recovery** could **enhance** student understanding. Other professors may prefer to limit this section to the **key message**, i.e., there are key **managerial and community characteristics** that constrain the disaster recovery process.

Objective 26.4 Discuss the major forms of non-local disaster recovery assistance.

Requirements:

Use Overhead 26-10.

Remarks:

- I. Non-governmental disaster agencies.
 - A. **Display** Overhead 26-10; “Non-Governmental Disaster Agencies.”
 - B. **Review** and illustrate the agencies listed. **Remind** students of the upcoming field trip to the local Red Cross chapter (Session No. 37; “Field Trip: American Red Cross”).
 1. **American Red Cross.**
 - a. **U.S.A. Congressional Charter**, 1905.
 - b. **Private organization**, but mandated by Congress to provide assistance after a disaster.
 - c. **Lead agency** in Federal Response Plan to provide mass care (ESF6).
 - d. **U.S.A. historical notes.**
 - 1) Following the Civil War, **Clara Barton** learned of “Geneva Convention for the Amelioration of the Condition of the Wounded of Armies in the Field.”
 - 2) Barton had made important efforts to organize medical assistance during the Civil War.
 - 3) Barton pressed for Congressional ratification of the “Geneva Conventions.”
 - 4) Barton helped to found the American Association of the Red Cross and was influential in obtaining the 1905 Congressional Charter.
 - e. **International context** (adapted from Brown 1988).
 - 1) **Jean Henri Dunant** (1829-1910) was the founder of the International Committee of the Red Cross.

- 2) Dunant was a **Swiss citizen** who had been involved in the establishment of the Young Men's Christian Association (YMCA).
 - 3) While on a business trip in northern Italy, near Castiglione, he observed dead and injured soldiers. Over 40,000 died in the Battle of Solferino.
 - 4) Dunant recruited local townspeople to initiate assistance for wounded soldiers, **regardless of which military** they represented.
 - 5) In his book, *A Memory of Solferino*, he proposed human treatment of war casualties and prisoners of war.
 - 6) Popular responses to his book and Dunant's organizational proposals culminated in the establishment of the International Committee of the Red Cross (ICRC).
 - 7) The ICRC is headquartered in Geneva, Switzerland as is the International Federation of Red Cross and Red Crescent Societies which coordinates activities of over 146 national societies.
2. Other voluntary organizations that frequently participate in disaster responses include the following.
- a. **Salvation Army.**
 - b. **Volunteers of America.**
 - c. **Religious groups** (examples).
 - 1) Church World Services.
 - 2) Mennonite Disaster Service.
 - 3) Southern Baptist Convention.
 - 4) National Catholic Disaster Relief Committee.
 - 5) B'nai B'rith.
 - 6) Seventh Day Adventists.

- II. Governmental response organizations: non-local.
 - A. **State government:** primary responsibilities and typical structures were reviewed in Session No. 6; “All-Hazards Emergency Management.”
 - B. **Federal government:** primary responsibilities and typical structures were reviewed in Session No. 6; “All-Hazards Emergency Management.”

Supplemental Considerations:

This section may be **very brief** with focus on the agencies listed on Overhead 26-10 (“Non-Governmental Disaster Agencies”) and a reminder of the material reviewed in Session No. 6 (“All-Hazards Emergency Management”). Some professors may wish to **review a brief discussion** (e.g., Brown 1988) or even a more lengthy presentation (e.g., Moorehead 1999) of Dunant’s experiences in the field and his difficulties in implementing his vision, i.e., the Geneva Conventions. Others might **expand** this section by **challenging students** and guiding discussions of more **recent treatments** of “political detainees”. Finally, some professors may wish to **expand** this section through inclusion of relevant materials regarding the **history** and **case example responses** by such organizations as The Salvation Army or various religious groups such as the Mennonite Disaster Service, Southern Baptist Convention, etc.

Objective 26.5 Describe and illustrate the ten steps in holistic disaster recovery in local communities.

Requirements:

Use Overheads 26-11 and 26-12.

Remarks:

- I. Principles of sustainability.
 - A. **Definition** (adapted from Monday 2002).
 1. “. . . an ideal toward which to strive and against which to weigh proposed actions, plans, expenditures, and decisions.”
 2. Derived from the concept of “sustainable development”.
 - a) Proposed by the World Commission on Environment and Development (the Brundtland Commission).

- b) “Sustainable development is development ‘that meets the needs of the present without compromising the ability of future generations to meet its own needs’.” (Monday 2002, p. 2).
3. “The concept of sustainability is based on the premise that people and their communities are made up of social, economic, and environmental systems that are in constant interaction and that must be kept in harmony or balance if the community is to continue to function to the benefit of its inhabitants—now and in the future.” (Monday 2002, pp. 2-3).

B. Display Overhead 26-11; “Principles of Sustainability.”

1. “A community or society that wants to pursue sustainability will try to:” (Monday 2002, p. 3). (**review and illustrate the six principles** after explaining this lead).
2. **Maintain** and, if possible, enhance, its residents’ quality of life.
3. **Enhance** local economic vitality.
4. **Promote** social and intergenerational equity.
5. **Maintain** and, if possible, enhance, the quality of the environment.
6. **Incorporate** disaster resilience and mitigation into its decisions and actions.
7. **Use** a consensus-building, participatory process when making decisions.

II. Steps in local holistic recovery.

- A. **Definition:** “A holistic recovery from a disaster is one in which the stricken locality systematically considers each of the principles of sustainability in every decision it makes about reconstruction and development.” (Monday 2002, p. 6).
- B. **Display Overhead 26-12; “The Ten Step Process.”** **Illustrate** each topic listed (adapted from Monday 2002, pp. 7-9).
 1. **Get organized.**
 2. **Involve the public.**
 3. **Coordinate with other agencies, departments, and groups.**

4. **Identify post-disaster problems.**
5. **Evaluate the problems and identify opportunities.**
6. **Set goals.**
7. **Develop strategies for implementation.**
8. **Plan for action.**
9. **Get agreement on the plan for action.**
10. **Implement, evaluate, and revise.**

Supplemental Considerations:

This section may be **very brief** and focused on the material summarized on the two overheads. Some professors may choose to **expand** the section through additional class discussion focused on illustrations of all or most of the key ideas. Others may use a community **case study** to illustrate the principles and ten step processes in detail. The key message is that students become aware of the **theoretical** and **policy issues** related to a **sustainability perspective** on the disaster recovery process.

Objective 26.6 Discuss at least four major research conclusions on post-disaster community change.

Requirements:

Use Overhead 26-13.

Remarks:

- I. No effect conclusions.
 - A. **Display** Overhead 26-13; “Post-Disaster Community Change: Four Research Perspectives.”
 - B. **Review** illustrative research related to each topic as summarized below.
 - C. Wright and Rossi (1981).
 1. **Reviewed** counties (1,140) and census tracts (1,102) data for a decade, i.e., 1960-1970.

2. **Conclusion:** no discernible long lasting effects, on a variety of characteristics, e.g., rents, housing values, family income, etc.
3. **Criticisms.**
 - a. Most events included in data base were “minor”, e.g., tornado with only a few houses damaged.
 - b. County and census tract characteristics were too crude to detect impacts that may have occurred in Microsystems like families.

D. Friesema et al. (1979).

1. **Reviewed** time series data from communities impacted by four major disasters.
 - a. Yuba City, California (flood, 1955).
 - b. Galveston, Texas (hurricane, 1961).
 - c. Conway, Arkansas (tornado, 1965).
 - d. Topeka, Kansas (tornado, 1966).
2. **Conclusion:** short-term, but non-lasting effects were documented. “We saw that deaths in Topeka, for example, increased sharply in the month of the disaster only. The next month, there was a slight, offsetting spike which is typical of this aftermath effect.” (p. 139).
3. **Criticisms:**
 - a. No theoretical rationale for dependent variables selected.
 - b. Possible acceleration of trends on theoretically relevant variables were not examined.

II. Short-term effects equal life changes.

A. Cohan and Cole (2002).

1. **Reviewed** marriage, birth, and divorce rates following Hurricane Hugo (1989) in all counties in South Carolina from 1975 to 1997.
2. **Conclusions.**

- a. **Marriage rates:** overall declining rate until the year after Hugo when a **net increase** occurred in the seven most impacted counties. Decline resumed in 1991.
- b. **Birth rates:** overall stability or nonsignificant decline from 1975 to 1997, except in impacted counties wherein a **one year increase** was documented.
- c. **Divorce rates:** stable pattern in divorce rates until Hugo, then a **one year increase** in the number of divorces was documented.
- d. **Interpretation:**
 - 1) People were mobilized to take action because of their disaster experience, i.e., hurricane was a catalyst (p. 21).
 - 2) “For some, natural disaster may have hastened a transition they were already moving toward, but at a slower pace. For others, natural disaster may have led to a transition that might not have occurred if not for the disaster.” (p. 21).
 - 3) “. . . dating couples formalized their relationship and got married, women got pregnant and gave birth, and married people got divorced. An implication of the present results for stress and coping research is that the actions people take following a disaster are nontrivial and have real-world consequences.” (p. 21).

3. Criticisms.

- a. While integrated into and guided by relevant research in stress and attachment theory, neither prior work by Wright and Rossi (1981) nor that of the Friesema team (1979), were cited or discussed.
- b. Only one disaster, Hurricane Hugo, was studied so generalization to events with differing disaster agents can not be made.
- c. While complete statewide analyses were conducted, generalization of impacts to communities with sharply different characteristics is precluded.

B. Edwards et al. (2000).

1. **Surveyed** a randomly selected sample of 826 students enrolled at East Carolina University (Greenville, North Carolina) impacted by Hurricane Floyd (September, 1999).
2. **Conclusions** (sample percentages were extrapolated to entire student body of approximately 18,000 to obtain the numbers listed below).
 - a. **Damages:** “One student in twenty, or about 900 students overall, had to move out of their residences in order for damage to be repaired, and another 720 (4%) saw their residents condemned because of flood damage.” (p. 4).
 - b. **Relocation:** “About 1,260 students (7%) reported that they had to move as a result of Floyd.” (p. 4).
 - c. **Transportation:** “. . . 37 percent of preflood walkers and bikers now drive, and another 8% of them now ride the ECU bus service.” (p. 5).
3. **Criticisms:** same three as A.3. (above).

III. Accelerating trends.

A. Anderson (1970).

1. **Field work** was completed in Alaska following 1964 earthquake. Focus was on **specific organizations** rather than community level variables.
2. **Conclusions.**
 - a. “In several organizations the disaster generated new patterns of change and in others it merely accelerated pre-existing patterns.” (p. 96).
 - b. Maximum disaster-related long-term change occurred when some or all of these conditions were present:
 - 1) “A number of changes were planned in the organization or were in the process of being realized when the disaster occurred, and these changes became more relevant because of the disaster” (p. 115).
 - 2) “. . . new strains were generated or old ones were made more critical by the disaster” (p. 115).

- 3) “. . . the organization experienced so great an alteration in its relation to its environment that new demands were placed on it” (p. 115).
- 4) “. . . alternative organizational procedures and norms were suggested by the disaster experience” (p. 115).
- 5) “. . . increased external support was given to the organization following the disaster” (p. 115).

3. **Criticisms:** same three as A.3. (above).

B. Bates and Peacock (1987).

1. **Field work** following the 1976 earthquake in Guatemala City, Guatemala, and **extensive review of literature** on disaster and social change (see pp. 311-324).
2. **Conclusions:**
 - a. “Disasters place the structure of the social system under stress and test its capacity to perform vital functions. In the process, weaknesses in the structure of the system are exacerbated and made visible for all to see. Furthermore the system is forced to adapt, at least temporarily to this stress and the conditions that cause it. These, at first, temporary adaptations may become permanent features of the social structure or bring about other changes that will be incorporated.” (p. 311).
 - b. “Disasters differentially affect socioeconomic and ethnic groups as well as different sectors of the community’s division of labor. As a consequence the stratification system may be affected, and differential decline and growth may occur in various sectors of the social structure.” (pp. 311-312).
 - c. “Disasters bring new groups and organizations into being and provide circumstances which foster new forms of contact, cooperation and conflict between existing groups and organizations. This may result in permanent changes in the units that make up the social structure and in the relationships which link them together to form the structure of the system.” (p. 312).
 - d. “Disasters frequently destroy or severely damage outmoded infrastructure and force its replacement by more modern technology. Such technological innovation may result in the

alteration of the stratification system or the division of labor and may result in both differential growth and elaboration of sectors of the system's structure." (p. 312).

- e. "Disasters frequently result in the influx of a large number of outsiders who supply additional labor and expertise as well as large amounts of outside physical and financial resources. This may produce an economic boom, and provide the impetus for change in both the division of labor and in stratification as well as differential growth and elaboration." (p. 312).

3. **Criticisms:** same three as A.3. (above).

C. Morrow and Peacock (1997).

1. **Several studies** using different methodologies were implemented following **Hurricane Andrew** (1992). These studies were summarized in Session No. 10 ("Public Warning Responses").

2. **Conclusions.**

- a. Documented support of **many, but not all**, of the conclusions reached by Bates and Peacock (1987).
- b. "The inherent conflictual nature of the recovery process resulted in the formation of new alliances and groups to challenge the status quo." (p. 242).
- c. "... evidence in terms of household recovery clearly suggests the potential for increased ethnic inequality and special segregation, or at least little in the way of a reversal of trends." (p. 242).
- d. "... while some changes reflect alteration in the nature of this complex multiethnic community, others reflect a reversion to or at least the maintenance of the status quo, perhaps even exacerbating preexisting stratification patterns." (p. 242).

3. **Criticisms:** same three as A.3. (above).

D. Scanlon and Handmer (2001).

1. In an **effort to test** Samuel Henry Prince's thesis (1920) that disasters lead to change, **field work** was conducted following a massacre in Port Arthur, Tasmania (1996; 35 killed and 19 injured). Extensive reviews

were completed of prior and post-event regulations regarding distribution and ownership of weapons.

2. **Conclusions.**

a. **The response.**

- 1) **Political**, e.g., Australian Attorney General: “I can’t think of a greater need for uniform gun laws than that demonstrated by what happened at Port Arthur.” (p. 196).
- 2) **Interest groups**, e.g., National Coalition for Gun Control (NCGC), Australian Medical Association (AMA), Gun Control Australia.

b. **The consequence.**

- 1) “The day after the massacre, Prime Minister John Howard announced an emergency meeting of the Australia Police ministers Council (APMC) to consider gun law reform.” (p. 198).
- 2) This meeting culminated in the Nationwide Agreement on Firearms. By May 1997, all states and territories had implemented the new regulations.

c. **An interpretation:** Why did the massacre trigger change?

- 1) “It happened on this occasion because of the impact of the massacre and because of the preexisting social and political context, which had come to favor gun control.” (p. 197). More specifically such factors as the following.
- 2) Massive media coverage.
- 3) Popular belief that gun control might prevent future episodes.
- 4) Leadership from a politically powerful person (Prime Minister).
- 5) Several prior mass killings in Australia and elsewhere, e.g., six weeks earlier at a school in Dunblame, Scotland.

6) Most Australians could visualize themselves as future victims (adapted from pp. 200-101).

3. **Criticisms:** same three as A.3. (above).

IV. Blame assignation.

A. Drabek and Quarantelli (1962).

1. **Field work** and longitudinal case study of an explosion during the Holiday on Ice Show, Indianapolis Coliseum, October 31, 1963 (81 killed, approximately 400 injured). Review of literature pertaining to other blame assignation episodes following disaster.

2. **Conclusion.**

a. Grand jury indictments resulted in charges directed at several local and state personnel once five investigators determined that illegally used propane gas tanks were the cause.

b. “This tendency to seek the cause in a *who*—rather than a *what*—is common after airplane crashes, fires, cave-ins, and other catastrophes not caused naturally. Personalizing blame in this way is not only a standard response, but well in harmony with the moral framework of American society. (p. 12).

c. “Not only does individual blame draw attention from more fundamental causes, but it might actually give the illusion that corrective action of some sort is being taken” (p. 16).

3. **Criticisms:** same three as A.3. (above).

B. Neal (1994).

1. **Field work** traced the actions of an emergent citizen group concerned about the health effects of the incineration of polychlorinated biphenyls (PCB’s).

2. **Conclusions:** five similarities with other studies were documented (adapted from p. 262).

a. Problems with having regulatory agencies performing health studies and the accompanying political maneuvering to suppress them.

- b. Various regulatory agencies proving incapable of handling the problem.
- c. The citizens' group's attempting to have the situation defined as a crisis or disaster.
- d. Conflict between the regulatory agencies.
- e. Problems of jurisdictional boundaries and responsibilities.

3. **Criticisms:** Same as A.3. (above).

Supplemental Considerations:

Some professors may wish to **integrate** discussions of **research methods**, e.g., time series analyses, and fundamental **methodological issues**, e.g., internal and external validity, into this section. By focusing the discussion of the various studies on **issues of method**, student understanding of the complexities of this topic could be **enhanced**. An **exercise** could be included wherein the class could **design** two or three alternative research studies that might counter some of the **criticisms** of the research conducted to date. Depending on the course context, many professors will prefer to **keep the section brief**, as only an introduction to this general topic.

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