

THE 1993 ANNUAL REPORT
OF THE
DISASTER RESEARCH CENTER

University of Delaware

Newark, Delaware, USA, 19716

DRC PERSONNEL

Research Staff

Joanne M. Nigg, Director
Kathleen J. Tierney, Research Director
Russell R. Dynes, Research Professor
E. L. Quarantelli, Research Professor
Susan L. Knight, Field Director

Office Coordinator

Diane Murray

Secretary

Maura Jentz

Graduate Research Assistants

1. Karen Cerra
2. Melvin D'Souza
3. James Dahlhamer
4. Eli Duarte
5. Elizabeth Goetz
6. Susan Knight
7. Jason McNamara
8. Kristen Miller
9. R. Vernon Smith
10. Stephanie Willson

Research Aids

1. Shelly Brown
2. Letha Bruce
3. Beth Jacobson
4. Eun-Young Kim
5. Candace Lewis
6. Tori Larsuel

Librarian

Susan Castelli

Resource Collection Staff

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| 1. Maureen Ahern | 5. Rebecca Logan |
| 2. Louis Biely | 6. Jennifer West |
| 3. Kathleen Callahan | 7. Jennefer York |
| 4. Karey Cropper | |

PUBLICATIONS

Books or Monographs

Nigg, Joanne M.

Perceptions and Predictions of Natural Hazards. (Dordrecht, The Netherlands: Kluwer Academic Publishers). Coedited with J. Nemec and F. Siccardi.

Quarantelli, E. L. and Konstantin Popov

Proceedings of the United States-Former Soviet Union Seminar on Social Science Research on Mitigation For and Recovery From Disasters and Large Scale Hazards, Volume I: The American Participation. (Newark, DE: Disaster Research Center, University of Delaware).

Tierney, Kathleen J. and Joanne M. Nigg

Socioeconomic Impacts: 1993 National Earthquake Conference. Earthquake Hazard Reduction in the Central and Eastern United States: A Time for Examination and Action. (Memphis, TN: Central United States Earthquake Consortium).

Articles and Book Chapters

Dynes, Russell R.

"Disaster Research--An Overview With Emphasis on the Case of Nuclear Accidents." Pp. 59-65 in Bror Stefenson, Per Axel Landahl and Tom Ritchey (eds.) Nuclear Accidents and Crisis Management, (Stockholm, Sweden: Kungliga Krigsvetenskapsakademien)

"Disaster Reduction: The Importance of Adequate Assumptions About Social Organization." Sociological Spectrum, 13:175-192.

"Research and Its Application: Bridging a Critical Gap." Pp. 14-15 in Bridges a special edition of the NCCEM Bulletin.

"Guidelines for Emergency Management in Fixed Site Installations." Disaster Prevention and Management, 2:6-16.

Mushkatel, Alvin H., Joanne M. Nigg and K. David Pijawka

"Nevada Urban Residents' Attitudes Toward a Nuclear Waste Repository." Pp. 239-262 in Riley E. Dunlap, Michael E. Kraft and Eugene A. Rosa (eds.), Public Reactions to Nuclear Waste: Citizens' Views of Repository Siting. (Durham, NC: Duke University Press)

Nigg, Joanne M.

"Societal Response to Global Climate Change: Prospects for Natural Hazard Reduction." Pp. 289-294 in Rafael Bras (ed.) AIP Conference proceedings, The World at Risk: Natural Hazards and Climate Change. (New York: American Institute of Physics)

"Risk Communication and Warning Systems." Pp. 209-236 in Proceedings Preprint International Conference on Natural Risk and Civil Protection. (Commission of European Communities)

Quarantelli, E. L.

"The Environmental Disasters of the Future Will Be More and Worse But the Prospect Is Not Hopeless." Disaster Prevention and Management: An International Journal 2:11-25.

"Converting Disaster Scholarship Into Effective Disaster Planning and Managing: Possibilities and Limitations." International Journal of Mass Emergencies and Disasters 11:15-39.

"Community Crises: An Exploratory Comparison of the Characteristics and Consequences of Disasters and Riots." Journal of Contingencies and Crisis Management 1:67-78.

"The Importance of Thinking of Disasters as Social Phenomena." International Civil Defence Journal 6:24-25.

"Organizational Response to the Mexico City Earthquake of 1985: Characteristics and Implications." Natural Hazards 8:19-38.

"The Different Worlds of Science and Mass Communication: Implications for Information Flow From the Former to the Latter." Pp. 175-182 in J. Nemec, J. Nigg, and F. Siccardi (eds.) Prediction and Perception of Natural Hazards (Dordrecht, The Netherlands: Kluwer Academic Publishers).

Technical Reports, Proceedings and Book Reviews

Dynes, Russell R.

"Social Science Research: Relevance for Policy and Practice." Pp. 67-92 in Improving Earthquake Mitigation: Report to Congress. (Washington, DC: FEMA)

Nigg, Joanne M.

"Disaster Recovery: A Social Process." Pp. 258-269 in E. L. Quarantelli and Konstantin Popov (eds.) Proceedings of the United States-Former Soviet Union Seminar on Social Science Research on Mitigation For and Recovery From Disasters and Large Scale Hazards, Volume 1: The American Participation. (Newark, DE: Disaster Research Center, University of Delaware).

Nigg, Joanne M., William J. Petak and Gary A. Kreps

"The Research Process in the United States: Research Contexts, Uses and Issues." Pp. 80-92 in E. L. Quarantelli and Konstantin Popov (eds.) Proceedings of the United States-Former Soviet Union Seminar on Social Science Research on Mitigation For and Recovery From Disasters and Large Scale Hazards, Volume 1: The American Participation. (Newark, DE: Disaster Research Center, University of Delaware).

Nigg, Joanne M., Alvin H. Mushkatel and Richard Moore

Evaluation of the Dissemination and Utilization of the NRHRP Recommended Provisions. Volume II: Analysis and Conclusions (Washington, DC: FEMA).

Evaluation of the Dissemination and Utilization of the NEHRP Recommended Provisions. Executive Summary (Washington, DC: FEMA).

ACADEMIC PRESENTATIONS

Dahlhamer, James M.

"Small Business and the Whittier Narrows Earthquake: Loan Request Outcomes in the U.S. Small Business Administration Disaster Loan Program for Business." 18th Annual Hazards Research and Applications Workshop, Boulder, CO, July 11-14.

Dynes, Russell R.

"Conceptualizing Disaster in Social Science Terms." Research Seminar on Socio-Economic Aspects of Disasters in Central America, San Jose, Costa Rica, January 21-23.

"Report on the Central American Research Seminar." International Sociological Association Research Committee, Annual Meeting of the American Sociological Association, Miami, FL, August 13-17.

Nigg, Joanne M.

"Future Directions In Research: Social and Policy Issues." EERI Annual Meeting, Seattle, WA, February 12.

"Disaster Recovery: A Social Process." U.S.-Russia Seminar on Social Science Research on Mitigation of and Recovery From Disasters, Moscow, Russia, April 21-24.

"Research Issues on the Built Environment From a Multidisciplinary Perspective." College of Engineering Colloquium Series, University of Delaware, Newark, DE, May 10.

Nigg, Joanne M., and James M. Dahlhamer

"An Empirical Investigation of Rumoring: Anticipating Disaster Under Conditions of Uncertainty." Annual Meeting of the Southern Sociological Society, Chattanooga, TN, April 1-4.

Nigg, Joanne M., and Kristen S. Miller

"Event and Consequence Vulnerability: Effects on the Disaster Recovery Process." Annual Meeting of the Eastern Sociological Society, Boston, MA, March 24-26.

Nigg, Joanne M., William J. Petak and Gary A. Kreps

"The Research Process in the U.S.: Research Contexts, Uses and Issues." U.S.-Russia Seminar on Social Science Research on Mitigation of and Recovery From Disasters, Moscow, Russia, April 21-24.

Nigg, Joanne M., and Kathleen J. Tierney

"Disasters and Social Change: Consequences for Community Construct and Affect." Annual Meeting of the American Sociological Association, Miami, FL, August 13-17.

Quarantelli, E. L.

"The Similarity of Future Disasters in Italy and the United States: The Effects of Current Social Change Trends." International Seminar: The Culture of Socio-Historical Origin and Change, University of Pisa, Pisa, Italy, March 18.

"Human Response In Radiation Disasters." Medical Planning and Care in Radiation Accidents Course, Oak Ridge Institute for Science and Education, Oak Ridge, TN, March 25.

"Technological Disasters and Ecological Problems: Similarities and Differences in Planning and Managing." International Seminar on Technological and Ecological Disasters, Mexico City, Mexico, May 11.

"The Different Roles of the Academic Researcher." Mexican Academy of Engineering Round Table on the Role of Academia in the Solution of Technological and Ecological Disasters, Mexico City, Mexico, May 12.

"Risk Communication: The Perception of, Planning For, and Managing of Disaster Risks." Emergency Planning 1993 Second International Conference on Emergency Planning and Disaster Management, Lancaster University, England, July 15.

Tierney, Kathleen J.

"Socio Economic Aspects of Hazard Mitigation." Research Seminar on Socio Economic Aspects of Disasters in Central America, San Jose, Costa Rica, January 21-23.

"Los Angeles 1992: First Urban Unrest of the 21st Century." Annual Meeting of the Southern Sociological Society, Chattanooga, TN, April 1-4.

"Making Sense of Collective Preoccupations: Lessons From Research on the Iben Browning Earthquake Prediction." Annual Meeting of the American Sociological Association, Miami, FL, August 13-17.

PRESENTATIONS TO GOVERNMENTAL BODIES AND PROFESSIONAL ORGANIZATIONS

Dynes, Russell R.

"Disaster Research--An Overview With Emphasis on the Case of Nuclear Accidents." International Conference on Nuclear Accidents and Crises Management, Stockholm, Sweden, March 16-18.

Nigg, Joanne M.

"Future Directions in Research: Social and Policy Issues." EERI Annual Meeting, Seattle, WA, February 12.

"The Social Consequences of Disaster Events." Invited Keynote presentation at the Annual Meeting of the National Coordinating Council on Emergency Management, New Castle County, DE, May 18.

"Societal Research Under NEHRP: Past Accomplishments and Future Directions." Directions for NSF Earthquake-Related Research in the Next Decade Workshop, Washington, DC, June 17-18.

"Risk Communication and Warning Systems." Invited Paper at the Conference on Natural Risk and Civil Protection, Belgirate, Italy, October 18-23.

Tierney, Kathleen J.

"Emergency Preparedness and Response: Lessons From the Loma Prieta Earthquake." Symposium on Practical Lessons From the Loma Prieta Earthquake, San Francisco, CA, March 22-23.

"Social and Economic Consequences of Earthquakes." 1993 National Earthquake Conference, Memphis, TN, May 3-5.

"Disaster Preparedness and Response: Research Findings and Guidance From the Social Science Literature." Republic of China-United States Bilateral Workshop on Natural Disaster Reduction, Taipei, Taiwan, June 24-25.

ACADEMIC ACTIVITIES

Dahlhamer, James M.

Recorder for Session. "After the Parkfield Experiment." 18th Annual Hazards Research and Applications Workshop, Boulder, CO, July 11-14.

Dynes, Russell R.

Co-Organizer and Presenter. Seminar on Research on Socio-Economic Aspects of Disasters in Central America, San Jose, Costa, Rica, January 20-23.

Nigg, Joanne M.

Chair. Session on Socioeconomic and Public Policy Impacts: Building Code Issues at the 1993 National Earthquake Conference, Memphis, TN, May 3-5.

Participant. NSF Workshop on The Future of Earth Science and Earthquake Engineering Research (only Social Science representative), Washington, DC, June 17-18.

Member. Editorial Board, Kluwer Academic Publishers Series, Advances in Natural and Technological Hazards Research.

Proposal Reviewer. National Science Foundation.

Proposal Reviewer. U. S. Geological Survey.

Reviewer: Earthquake Spectra; Gender and Society; Oxford University Press.

Quarantelli, E. L.

Participant. Political Systems in Conflict: Elections and Problems of Democracies Conference, University of Genoa, Genoa, Italy, March 19.

Organizer and Presenter. International Seminar on Social Science Research on Mitigation for and Recovery From Disasters and Large Scale System Hazards, Moscow, Russia, April 21-24.

Discussant. The Mexico City Department of Public Works Disaster Programs, Mexico City, Mexico, May 12.

Chair. Roundtable: "Disasters, Different Social Construction of the Concept." International Institute of Sociology Centennial Congress, The Sorbonne, Paris, France, June 24.

Chair. Session on The Means For Mitigating the Risks, U.S. Natural Hazards Symposium, Washington, DC, November 3.

Tierney, Kathleen J.

Chair. Session on Socioeconomic and Public Policy Impacts: Risk Assessment, Loss Estimation, and Economic Consequences, 1993 National Earthquake Conference, Memphis, TN, May 2-5.

Chair. Session on Socioeconomic and Public Policy Impacts: Mitigation Policy Issues and Initiatives, 1993 National Earthquake Conference, Memphis, TN, May 3-5.

OTHER PROFESSIONAL ACTIVITIES

Dynes, Russell R.

Board Member. Research Committee on Disasters, International Sociological Association.

Member. Research Committee, International Sociological Association.

Reviewer. International Journal of Mass Emergencies and Disasters.

Proposal Reviewer. National Science Foundation.

Proposal Reviewer. State University of New York.

Project Reviewer. United Nations Educational and Scientific Organization.

Project Participant. Delft Institute of Technology, The Netherlands.

Nigg, Joanne M.

Member. EERI Honors Committee.

Member. Scientific Advisory Committee, National Center for Earthquake Engineering Research.

Member. Technical Program Committee, 1993 National Earthquake Conference.

Member. Technical Program Committee, 5th National Earthquake Engineering Conference.

Member. Delaware Governor's Council on Emergency Operations and Planning.

Member. Expert Panel for GAO's Study on the Federal Response Problems in Hurricane Andrew.

Member. Editorial Board of Earthquake Spectra.

Presider. Session on Societal Impacts of Earthquake Events at the 1993 National Earthquake Conference, Memphis, TN, May 2-8.

Quarantelli, E. L.

Proposal Reviewer. National Science Foundation (several divisions). Australian Research Grants committee

Manuscript Reviewer. American Journal of Sociology, Social Problems, Oxford University Press, Disasters, International Journal of Mass Emergencies and Disasters, Disaster Management, Natural Hazards, International Journal of Disaster Prevention and Management, Journal of Traumatic Stress, American Sociological Review.

Editorial Board Member. Asia-Pacific Journal of Rural Development, Journal of Hazardous Materials, Industrial Crisis Quarterly, the Hazard Monthly, Estudios para la Prevencion de Disasters, and the Psychosocial Stress Book Series.

Board Member. BOND, National Academy of Sciences; U.S. National Committee on the UN Decade for Natural Disaster Reduction, National Academy of Sciences; International Advisory Board of Emergency Planning '93.

Consultant. Maravan of Venezuela, World Health Organization, UN Committee on Urgent Environmental Emergencies, Innovative Emergency Management.

Tierney, Kathleen J.

Member. National Earthquake Hazards Reduction Program Advisory Committee.

Member. Research Committee, National Center for Earthquake Engineering Research.

Member. Editorial Board for Gender and Society.

Secretary. Research Committee on Disasters, International Sociological Association.

Proposal Reviewer. National Science Foundation.

CONTRACTS AND GRANTS

1. An International Workshop on Prediction and Perception of Natural Hazards (continuing)

National Science Foundation

\$ 51,471

2. Sociobehavioral and Emergency Management Aspects of Catastrophic Marine Oil Spills (continuing)

University of Delaware Sea Grant College Program

\$ 40,560

3. Societal Impact of Crude Oil Spills in the Central U.S. (continuing)

National Center for Earthquake Engineering Research

\$ 46,428

4. Urban Seismic Risk Assessment (continuing)

National Center for Earthquake Engineering Research

\$ 29,935

5. Urban Seismic Risk Assessment: Assessing Earthquake Impacts on Business Activity in the Greater Memphis Area (continuing)

National Center for Earthquake Engineering Research

\$ 80,000

6. Seminar on Research in Socio-Economic Aspects of Disasters in Developing Countries in Central America (continuing)

National Science Foundation

\$ 18,734

7. US-Former Soviet Union Seminar on Social Science Research on Mitigation For and Recovery From Disasters and Large Scale Hazards (continuing)

National Science Foundation

\$ 18,642

8. Judgments of Responsibility for Disaster Consequences (continuing)

National Science Foundation

\$ 76,484

9. Economic Consequences Due to Lifeline Failures: Lessons From the Heartland Floods of 1993 for Earthquake Recovery Planning (new)

National Science Foundation

\$ 42,214

10. Utilization and Impact of Earth Science Information Among Local Governments and Businesses in Southern California (new)

U. S. Geological Survey

\$ 74,074

PROPOSED RESEARCH

1. Emergency Response and Early Recovery Activities in the Northridge Earthquake

National Science Foundation

\$ 9,954

2. Hazard Perception, Mitigation, and Preparedness Activities Among Lifeline Organizations in Southern California

National Center for Earthquake Engineering Research

\$70,000

3. Hazard Perception, Mitigation, and Preparedness Activities Among Lifeline Organizations in Southern California

National Center for Earthquake Engineering Research

\$54,941

DRC FIELD STUDIES

February 22	Follow-up, 1992-1201, Western TN Earthquake Preparedness, Nashville/Memphis, Tennessee (TN Pipeline)
May 1	Judgments of Responsibility
May 20	Memphis Business Survey (NCEER Risk Assessment)

VISITORS TO DRC

Among visitors to DRC were academics or professionals from:

China

Institute of Sociology, Chinese Academy of Social Sciences, Beijing

England

Large Scale Evacuation Project, Department of Geography, London School of Economics, London

Germany

Sensomotorik-Labor, Universitat Bremen, Bremen

Israel

School of Social Work, Bar-Ilan University, Ramat-Gan

Japan

Department of Social Psychology, Toyo Eiwa Women's University, Yokohama

Social and Economic Systems Department, Nomura Research Institute, Yokohama

Faculty of Sociology, Toyo University, Tokyo

The Netherlands

Hoorweg & Quint, Organisatie-Adviseurs, 's-Gravenhage

Russia

Chief of Scientific Project, Institute of Sociology, Russian Academy of Sciences

U.S.A.

Geohazards International, Oyo Pacific, San Francisco, CA

National Earthquake Hazards Reduction Program, Federal Emergency Management Agency, Washington, DC

Office of Inspector General, Federal Emergency Management Agency, Washington, DC

General Government Division, U.S. General Accounting Office, Washington, DC

School of Engineering and Applied Science, Department of Engineering Management, The George Washington University, Washington, DC

Towson State University, Towson, MD

Department of Psychology, Michigan State University, East Lansing, MI

Associated Press, Baltimore, MD

Department of Geography, Rutgers University, New Brunswick, NJ

Department of Sociology, Rutgers University, State University of New Jersey, New Brunswick, NJ

Emergency Management Section, New Jersey State Police, Operational Planning Bureau, West Trenton, NJ

Department of Sociology, Ohio State University, Columbus, OH

Department of Management, Bucknell University, Lewisburg, PA

Department of Sociology, Millersville, University, Millersville, PA

Shepherd College, Shepherdstown, WV

NEW DRC PUBLICATIONS IN 1993

Crawford, Bruce D.

"The Effects of Disaster Preparedness and Response on M-Form Organizational Structure"

Dahlhamer, James M.

"Small Business and the Whittier Narrows Earthquake: Loan Request Outcomes in the U.S. Small business Administration Disaster Loan Program for Businesses"

Dynes, Russell R.

"Disaster Reduction: The Importance of Adequate Assumptions About Social Organization"

"Research and Its Application: Bridging a Critical Gap"

"Guidelines for Emergency Management in Fixed Site Installations"

"Disaster Research--An Overview With Emphasis on the Case of Nuclear Accidents"

Mushkatel, Alvin H., Joanne M. Nigg and K. David Pijawka

"Nevada Urban Residents' Attitudes Toward a Nuclear Waste Repository"

Nemec, J., Joanne M. Nigg and F. Siccardi (eds.)

Perceptions and Predictions of Natural Hazards

Nigg, Joanne M.

"Social Response to Global Climate Change: Prospects for Natural Hazard Reduction"

"Risk Communication and Warning Systems"

"Disaster Recovery: A Social Process"

Nigg, Joanne M., William J. Petak and Gary A. Kreps

"The Research Process in the United States: Research Contexts, Uses and Issues"

Quarantelli, E. L.

"The Environmental Disasters of the Future Will Be More and Worse But the Prospect Is Not Hopeless"

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"Community Crises: An Exploratory Comparison of the Characteristics and Consequences of Disaster Riots"

"The Importance of Thinking of Disasters as Social Phenomena"

"Organizational Response to the Mexico City Earthquake of 1985: Characteristics and Implications"

"The Different Worlds of Science and Mass Communication: Implications for Information Flow From the Former to the Latter"

Quarantelli, E. L. and Konstantin Popov

Proceedings of the United States-Former Soviet Union Seminar on Social Science Research on Mitigation For and Recovery From Disasters and Large Scale Hazards. Volume I: The American Participation

Quarantelli, E. L., Dennis E. Wenger, Shunji Mikami and Osamu Hiroi

The Reporting of News in Disasters: A Comparative Study of Japanese and American Communities

Tierney, Kathleen J. and Joanne M. Nigg (eds.)

Socioeconomic Impacts: 1993 National Earthquake Conference. Earthquake Hazard Reduction in the Central and Eastern United States: A Time for Examination and Action