

PARTICIPATORY PROCESSES IN DISASTER RECOVERY — WHERE TO FIND INFORMATION —

Training Courses and Workshops

Federal Emergency Management Agency, Emergency Management Institute, National Emergency Training Center. Emmitsburg, Maryland. <http://www.fema.gov/emi> [accessed June 15, 2001] (301) 447-1035.

- “Project Impact: Building Consensus in Disaster-Resistant Communities.” Federal Emergency Management Agency Course E380.
This course is for the person(s) in an organization with responsibility for coordinating and implementing the Project Impact initiative in their jurisdiction. Participants will learn and practice the facilitation skills necessary to work with officials and stakeholders in a community to promote the development of a disaster-resilient community.

Organizations

Many private consulting firms offer expertise in facilitation and consensus-building in a post-disaster or planning situation. A community’s federal agency contacts—at the Corps of Engineers, the Bureau of Reclamation, the Environmental Protection Agency, the National Park Service, or the Federal Emergency Management Agency—would be the best source for specific referrals to an area company.

City of Denton.

The public involvement section of the Denton Comprehensive Plan lays out fundamentals of public participation.

See http://www.cityofdenton.com/planning/tdp_intro.html [accessed July 20, 2001]

Creighton and Creighton.

The Creighton and Creighton website provides an annotated list of links about public involvement.

See <http://www.creightonandcreighton.com/> [accessed July 20, 2001]

Community Development Society.

See the publication, “What is Participatory Research?” for a discussion of public participation and some guiding principles.

See <http://www.comm-dev.org/par-is.htm> [accessed July 20, 2001]

Disaster Resistant Neighborhoods. “Building Disaster Resistant Neighborhoods Handbook.”

This handbook outlines a step-by-step action plan, with examples, to assist planners in working with neighborhood associations to help them become better prepared for the next disaster. Posted

on the link along with the handbook are a variety of marketing tools to help promote the program.

See <http://www.tallytown.com/redcross> [accessed September 21, 2001]

Highlander Education and Research Center.

This group specializes in participatory education and action research and involving stakeholders.

See <http://www.hrec.org> [accessed July 20, 2001]

National Park Service.

The National Park Service through its Rivers, Trails and Conservation Assistance Program helps local coalitions develop strategic plans, identify potential sources of funding and builds partnerships to achieve goals determined by the community. The National Park Service becomes involved in a project only at the request of citizen groups or governmental agencies. The lead project partner(s) must write a letter of request to the Rivers and Trails Program. Send applications to the Manager of Rivers, Trails and Conservation Assistance Program of your National Park Service Regional Office.

See <http://www.nps.gov/legacy/regions.html> [accessed September 21, 2001]

Partnerships Online. "Participation Guide."

This online guide, "The Guide to Effective Participation," was designed for community activists and professionals in the U.K. but has many useful resources for those in the United States interested in fostering community participation as well.

See <http://www.partnerships.org.uk/guide/index.htm> [accessed June 15, 2001]

Videos, CD-ROMs, and DVDs

Taking the Initiative Federal Emergency Management Agency, Emergency Management Institute. 2000. Emmitsburg, MD.

This 20-minute video shows how a neighborhood, two small towns, and a business owner took responsibility for and got organized to adopt sustainability principles and techniques in coping with hazards. The three separate instances, all in California, illustrate participatory processes, taking initiative, looking at the economic benefits of hazard mitigation (in one case, elevating a restaurant), incorporating livability components into a flood protection measure, and protecting the local environment and habitat. This video is available from the Emergency Management Institute at 1-800-238-3358. Ask for the "Disaster-Resistant Jobs" video.

Multi-objective Mitigation Planning. National Park Service and FEMA. 1995. Denver, CO.

The National Park Service and FEMA produced this 18-minute video of the Vermillion Basin, South Dakota, participatory planning process that discusses the experience from the perspective of both agency and community participants. The video is available from FEMA Region VIII, P.O. Box 25267, Bldg. 710, Denver Federal Center, Denver CO 80225-0267.

Books, Articles, and Papers

Association of State Floodplain Managers (ASFPM). 1996. *Using Multi-Objective Management to Reduce Flood Losses in Your Watershed*. Madison, WI: Association of State Floodplain Managers. 72 pp. Abstract available at <http://www.floods.org/PDF%20files/PUBSLIST.pdf>.

This publication explores planning and implementation techniques for multi-objective watershed management. It provides a general introduction to multi-objective management and the planning process that helps a community select the flood-loss reduction measures most suitable to its situation. It explains how to define problems and goals, build partnerships, combine needs and solutions creatively, and begin formal implementation procedures. Both riverine and coastal flood watersheds are examined, involving subjects such as fish and wildlife issues, water supply, housing improvement, transportation, and lifelines.

North Carolina Emergency Management Division and Federal Emergency Management Agency. 2000. *Hazard Mitigation in North Carolina: Measuring Success*. Raleigh, NC.

To accelerate the institutionalization of hazard mitigation in North Carolina, the North Carolina Emergency Management Division established the Hazard Mitigation Planning Initiative, a long-term program to build local capacity to implement mitigation policies and programs in communities across the state. Through a series of case studies, this study documents losses avoided as a result of the implementation of a wide range of mitigation measures, including elevations and the acquisition and relocation or demolition of floodprone properties.

Picou, J. Steven. 2000. "The 'Talking Circle' as Sociological Practice: Cultural Transformation of Chronic Disaster Impacts." *Sociological Practice: A Journal of Clinical and Applied Sociology* 2(2):66-76.

This article presents a description of a culturally sensitive mitigation strategy, the "Talking Circle," and its application to Alaska Natives negatively impacted by the 1989 Exxon Valdez oil spill. Talking Circles are a traditional social activity for Alaska Natives and this activity was organized and implemented by members of the Village of Eyak in Prince William Sound, Alaska. The two-day event resulted in many testimonies about personal experiences with the oil spill. Post-Talking Circle activities by Eyak Village members indicate increased cultural awareness and political mobilization. These findings suggest that this mitigation strategy promoted cultural consciousness among victims experiencing chronic disaster impacts and resulting in a "transforming activity" for the Native Village of Eyak.

Schwab, Jim, Kenneth C. Topping, Charles C. Eadie, Robert E. Deyle, and Richard A. Smith. 1998. *Planning for Post-Disaster Recovery and Reconstruction*. PAS Report No. 483/484. Chicago, IL: American Planning Association. 346 pp.

This document helps community leaders and planners educate their constituents on how informed decisions and choices can affect the rebuilding process and yield a safer, more sustainable community. This report introduces planners to their roles in post-disaster reconstruction and recovery, and provides guidance on how to plan for post-disaster reconstruction side by side with all other players involved. A key theme throughout this report is to rebuild to create a more disaster-resilient community. The report contains many references to technical resources.

Federal Emergency Management Agency. 1994. *Multi-Objective Flood Mitigation Plan Vermillion River Basin South Dakota*. Denver: Federal Emergency Management Agency, State of South Dakota, U.S. National Park Service.

The 1993 Midwest floods renewed interest on the part of government agencies, private groups, and individuals in finding ways to avoid or reduce the impacts of future disasters through permanent, low-cost solutions. This approach requires an examination of the relationships between natural systems (precipitation, drainage, sedimentation, vegetation, etc.) and human systems (water control structures, public policies and funding, agriculture, transportation, etc.) in order to make them more compatible. This document describes a multi-objective planning workshop held in Parker, South Dakota, in June 1994 to address flood mitigation. It describes the Vermillion River Basin and its flood history; the workshop; flood hazard management, drainage, and transportation in the area; economic development and sustainability, cultural and historic resources, and housing; fish and wildlife populations and habitat; outdoor recreation and open space; water quality and erosion; and implementation of the plan.

Additional Reading

Birkland, T.A. 1997. *After Disaster*. Washington, D.C.: Georgetown University Press.

City of Denton, Planning and Development Department, Comprehensive Planning Section. 1999. *The Denton Plan 1999-2020*. Denton, TX: City of Denton.

Community Development Society. *What Is Participatory Research?* <http://www.comm-dev.org/par-is.htm>

Cornwall, A. and R. Jewkes. 1995. "What Is Participatory Research?" *Soc. Sci. Med.* 41:1667-1676.

Cox, Bob, Sherryl Zahn, and Duane Holmes. 1995. "A Multiobjective Flood Hazard Mitigation Planning Process for the Vermillion River Basin, South Dakota." Pp. 132-135 in *From the Mountains to the Sea--Developing Local Capability*. Proceedings of the 19th annual conference of the Association of State Floodplain Managers. Special Publication 31. Boulder, CO: Natural Hazards Research and Applications Information Center.

Creighton, J.L. 1983. "Identifying Publics/staff Identification Techniques." In Creighton, J.L., Delli Priscoli, J. and Dunning, C.M., eds., *IWR Research Report 82-R1*. Fort Belvoir, VA: Institute for Water Resources, U.S. Army Corps of Engineers:199-206.

Daniels, S.E. and G.B. Walker. 1996. "Collaborative Learning: Improving Public Deliberations in Ecosystem-based Management." *Environmental Impact Assessment Review* 16:71-102.

Dore, J. 1998. *Step by Step to Facilitating your Community's Public Participation Process. The Token Creek Watershed Project Case Study*. Madison, WI: The Dane County Natural Heritage Foundation.

Environmental Protection Agency. 1997. *People, Places, and Partnerships. A Progress Report*

on *Community-Based Environmental Protection*. EPA-100-R-97-003. Washington, D.C.: Office of the Administrator.

Found, W.C. 1997. "Evaluating Participatory Research." *Knowledge and Policy* 10:109-122.

Hoff, Marie D. 1998. *Sustainable Community Development. Studies in Economic, Environmental, and Cultural Revitalization*. Boca Raton, FL: Lewis Publishers.

Holmes, D. n.d. *A Multi-Objective Workshop Planning Process*. Denver, CO: Stewardship and Partnership Team, Rocky Mountain Support Office, Intermountain Region, National Park Service.

Holmes, D. 1996. "A Multi-Objective Workshop Planning Process." Pp. 188-199 in *Proceedings of the Conference on Arid West Floodplain Management Issues*. Madison, WI: Association of State Floodplain Managers.

Kaner, S. et al. 1996. *The Facilitator's Guide to Participatory Decision-Making*. Gabriola Island, B.C.: New Society Publishers.

Kiser, L.L. and E. Ostrom. 1982. "The Three Worlds of Action; a Metatheoretical Synthesis of Institutional Approaches " In Ostrom, E , ed. *Strategies of political inquiry*. Beverly Hills, CA: Sage Publications: 179-222.

Krajeski, Richard L. and Kristina J. Peterson. 1999. "'But She Is a Woman and This Is a Man's Job': Lessons for Participatory Research and Participatory Recovery." *International Journal of Mass Emergencies and Disasters* 17(1): 123-130.

McShane, John H. 1992. "Integrating Provisions of the National Flood Insurance Program with Multi-objective River Corridor Management." Pp. 200-203 in *Multi-Objective Approaches to Floodplain Management*. Special Publication No. 26. Boulder, CO: Natural Hazards Research and Applications Information Center.

North Carolina Department of Crime Control and Public Safety. 1999 *Hazard Mitigation Successes*. Raleigh, NC: North Carolina Emergency Management Division.

Oleari, Kenoli. 2000. "Making Your Job Easier: Using Whole System Approaches to Involve the Community in Sustainable Planning and Development." *Public Management* (December):4-10

Platt, R.H. 1999. "Natural Hazards of the San Francisco Bay Mega-city: Trial by Earthquake, Wind, and Fire." In Mitchell, J.K., ed. *Crucibles of Hazard*. Tokyo: United Nations University Press: 335-374.

Plein, L.C , K. Green, and D.G. William. 1998. "Organic Planning: a New Approach to Public Participation in Local Governance." *The Social Science Journal* 35:509-523.

- R. D. Flanagan & Associates. 1994. *Tulsa's Floodplain and Stormwater Management Program*. Tulsa, OK. 85 pp.
- Sanoff, H. 2000. *Community Participation Methods in Design and Planning*. New York. John Wiley & Sons.
- Steelman, T.A. and W. Ascher. 1997. "Public Involvement Methods in Natural Resource Policymaking: Advantages, Disadvantages and Tradeoffs " *Policy Sciences* 30:71-90.
- Stoecker, R. 1999. "Are Academics Irrelevant?" *American Behavioral Scientist* 42:840-854.
- Thomas, J.C. 1995. *Public Participation in Public Decisions*. San Francisco: Jossey-Bass Publishers.
- Topping, K. C. 1992. *Oakland Hills Fire Prevention and Suppression Benefit Assessment District Report*. Unpublished. 46 pp.
- Wacker, C., A. Viaro, and M. Wolf. 1999. "Partnerships for Urban Environmental Management: the Roles of Urban Authorities, Researchers and Civil Society." *Environment & Urbanization* 11:113-125.
- Watson, L., V. Lee, P. Pogue, J. Almeida, H. Araujo, P.F. Mowrey, R. Rendine, R. Lietao, and J. Condon. 1998. *Strategy for Reducing Risks from Natural Hazards in Pawtucket, Rhode Island: a Multi-hazard Mitigation Strategy*. Narragansett, RI: Rhode Island Sea Grant.
- Zahn, S., B. Cox, and D. Holmes. 1994. *Multi-Objective Flood Mitigation Plan Vermillion River Basin South Dakota*. Denver, CO: Federal Emergency Management Agency, State of South Dakota, National Park Service.

USING DISASTER RECOVERY TO MAINTAIN AND ENHANCE QUALITY OF LIFE

— WHERE TO FIND INFORMATION —

Organizations

Boulder Area Sustainability Information Network (BASIN).

BASIN is a pilot project designed to help deliver a variety of environmental information about the Boulder area to its inhabitants. BASIN desires to 1) improve environmental monitoring to provide credible, timely, and usable information about the watershed; 2) create a state-of-the-art information management and public access infrastructure using advanced, web-based computer technologies; 3) build strong partnerships and an ongoing alliance of governmental, educational, non-profit and private entities involved in watershed monitoring, management and education; and 4) develop education and communication programs to effectively utilize watershed information in the public media and schools and facilitate greater public involvement in public policy formation.

See <http://bcn.boulder.co.us/basin/main/about.html> [accessed July 23, 2001]

Disaster Resistant Neighborhoods. "Building Disaster Resistant Neighborhoods Handbook."

This handbook outlines a step-by-step action plan, with examples, to assist planners in working with neighborhood associations to help them become better prepared for disaster. Posted on the link along with the handbook are a variety of tools to assist in promoting the program.

See <http://www.tallytown.com/redcross> [accessed September 21, 2001]

Joint Center for Sustainable Communities.

The advisory committee includes Wellington Webb, Mayor of Denver and President, the U.S. Conference of Mayors and C. Vernon Gray, President, National Association of Counties.

See http://www.naco.org/programs/comm_dev/center or <http://www.usmayors.org/sustainable> [accessed August 3, 2001]

Local Government Commission.

The LGC is a non-profit organization "working to build livable communities" in California. LGC organizes a variety of conferences, workshops, and training sessions on land use and transportation-related issues. The organization also publishes a monthly newsletter and has a resources library with a catalog of videos and slides.

See <http://www.lgc.org/center> [accessed June 15, 2001]

National Arbor Day Foundation

This group sponsors programs that encourage communities to plant trees.

See <http://www.arborday.org> [accessed June 15, 2001]

Videos, CD-ROMs, and DVDs

The Link Between Sustainability & Disaster Resistant Communities. Slide show produced by the U.S. Department of Energy and the Federal Emergency Management Agency.

<http://www.sustainable.doe.gov/disaster/impact>

This slide show explains the concept of sustainable redevelopment and gives examples of redevelopment in three communities: Soldiers Grove, Wisconsin; Valmeyer, Illinois; and Arkadelphia, Arkansas.

Mitigation Revitalizes a Floodplain Community: The Darlington Story. Wisconsin Department of Natural Resources. 1997. Madison, WI.

This is a splendidly produced videotape about the efforts of a small rural Wisconsin community to reverse the effects of neglect and disinvestment in its historic downtown area caused by repeated flooding and economic change. Using a multi-objective planning and management strategy, officials and citizens, in partnership with government agencies and private entities, identified six goals: 1) preserve the historic character of the downtown; 2) restore community pride; 3) acquire and relocate commercial properties at risk; 4) elevate and flood proof commercial and residential structures; 5) stimulate investment downtown; and 6) pursue tourism as an economic strategy. The video follows the mitigation process from early meetings through floodproofing and relocation. Produced by the Wisconsin Department of Natural Resources. 27 minutes. 1997. Available free from Wisconsin DNR, P.O. Box 7921, Madison, WI 53707-7921; (608) 264-9200.

Quality Redevelopment of Eastern North Carolina. Horizon Video Productions. 2000. Durham, NC.

This 20-minute video was produced by the state in the aftermath of Hurricane Floyd to introduce and educate local and state officials about the “better ways” available to recover from the disaster and at the same time address other local concerns such as environmental quality, economic vitality, housing, sense of community, business and job opportunities, and disaster mitigation. It introduced a framework espoused by the state for sustainable community action and features the governor explaining the tenets of “quality redevelopment” and how it can—and did—benefit North Carolina communities and help ensure a better future for the state’s citizens. Available from North Carolina Department of Emergency Management, 1830-B Tillery Place, Raleigh, NC 27699; (919) 751-8000; fax: (919) 715-9763.

Taking the Initiative. Federal Emergency Management Agency, Emergency Management Institute. 2000. Emmitsburg, MD.

This 20-minute video shows how a neighborhood, two small towns, and a business owner took responsibility for and got organized to adopt sustainability principles and techniques in coping with hazards. The three separate instances, all in California, illustrate participatory processes, taking initiative, looking at the economic benefits of hazard mitigation (in one case, elevating a restaurant), incorporating livability components into a flood protection measure, and protecting the local environment and habitat. This video is available from the Emergency Management Institute at 1-800-238-3358. Ask for the “Disaster-Resistant Jobs” video.

Books, Articles, and Chapters

Berke, Philip and Maria Manta. 1999. *Planning for Sustainable Development: Measuring Progress in Plans*. Lincoln Institute of Land Policy Working Paper. Lincoln, NE: Lincoln Institute of Land Policy. 23 pp.

Using six principles that define and operationalize the concept of sustainable development, the authors evaluated 30 comprehensive plans to determine how well the policies of these plans supported sustainable development. Findings indicate no significant differences in how extensively sustainability principles were supported between plans that state an intention to integrate sustainable development and those that did not. In addition, plans did not provide balanced support of all six sustainability principles; they supported one—the livable built environment principle—significantly more than the others.

Casey-Lefkowitz. 1999. *Smart Growth in the Southeast: New Approaches for Guiding Development*. Washington, D.C.: Environmental Law Institute Research Publications.

The southeastern United States has been trying to find ways to continue to reap the benefits of the region's bustling economy without the mounting fiscal, health, and environmental costs of poorly planned development. This report provides an overview of land use and transportation trends in seven states—Alabama, Georgia, Florida, North Carolina, South Carolina, Tennessee, and Virginia—and shows how these states are beginning to shape the pace and location of development by promoting community revitalization, conservation, and transportation alternatives.

Clinton-Gore Administration. 2000. *Building Livable Communities: Sustaining Prosperity, Improving Quality of Life, Building a Sense of Community*.

This report identifies steps that the Clinton-Gore Administration took to help communities grow in ways that ensure a high quality of life and strong, sustainable economic prosperity. It includes a brief description of challenges faced by urban, suburban, and rural communities, the innovative ways that some are meeting them, and the Livable Communities Initiative—a package of 30 policy actions and voluntary partnerships that support local efforts to build livable communities.

CUSEC Journal 7(1).

This special issue focused on the economic vulnerability of rural communities and on disaster recovery for small businesses. The journal is produced by the Central U.S. Earthquake Consortium. For more information contact the CUSEC Office at (901) 544-3570 or see <http://www.cusec.org> [accessed September 21, 2001]

Department of Energy. 1994. *Rebuilding Your Flooded Home: Guidelines for Incorporating Energy Efficiency*. DOE-EE-0019. Washington, D.C.: U.S. Department of Energy, Office of Building Technologies, 36 pp.

After disasters, the natural tendency is to return to one's home and restore it to the way one left it. Due largely to recent advances in building technologies, it is possible to rebuild a residence with a little extra care—and not much more time and cost—and have a home that is much more energy efficient than it was before the disaster. Because many house components will have to be replaced, i.e., insulation, it makes sense to purchase the most energy-efficient equipment and materials available. Following sections about drying out a flooded house and on personal safety

when cleaning up, the document explains how to analyze the property for building shell problems (air leakages, foundations, flooring, etc.), then considers building systems and equipment issues (electric motors, air conditioning, and appliances). Suggestions are presented and tips are provided for financing energy-efficient solutions, such as buying materials in bulk if many properties are affected.

Federal Emergency Management Agency. n.d. *Safeguarding Your Historic Site: Basic Preparedness and Recovery Measures for Natural Disasters*. Boston, MA: U.S. Federal Emergency Management Agency, Region I. 55 pp.

Drawing upon experience gained through disasters in Nantucket, Massachusetts, and Montpelier, Vermont, this document helps stewards of historic sites—including historic buildings, landscapes, districts, and museums—prepare their sites to withstand and recover from a natural disaster. The handbook can also be used by public officials, planners, community development professionals, and emergency management professionals as a general step-by-step guide to emergency planning for such facilities. Before a disaster strikes, the handbook provides information about identifying and assessing the risks to a facility, describes preventive measures for historic sites, and presents emergency planning guidelines. During the disaster itself, the handbook describes what can be done in the time available. After the disaster, guidelines are given for stabilizing the situation and recovering from the impacts. Preventive measures and preservation considerations are provided for four disaster agents: wildfire, hurricanes, riverine floods, and earthquakes.

Federal Emergency Management Agency. 2000. *Planning for a Sustainable Future. The Link Between Hazard Mitigation and Livability*. FEMA Report 364. Washington, D.C.: Federal Emergency Management Agency. 40 pp. Available at http://www.fema.gov/mit/planning_toc.htm.

This booklet is about hazard mitigation, disaster resistance, sustainable development and livability, and describes the linkages among these concepts. It shows how communities that undertake hazard mitigation planning become more disaster resilient and reap further benefits. Hazard mitigation links disaster resistance to broad community objectives of economic health, social well-being, and environmental protection.

Federal Emergency Management Agency. 2000. *Rebuilding for a More Sustainable Future: An Operational Framework*. FEMA Report 365. Washington, D.C.: Federal Emergency Management Agency. Available at http://www.fema.gov/mit/planning_toc2.htm.

This document provides guidance to the Federal Emergency Management Agency (FEMA) Sustainability Planner in the post-disaster response and recovery process. State emergency management officials, local jurisdictions, and other FEMA staff may also use it as a reference during non-disaster time.

Flink, Charles A. and Robert M. Searns. 1993. *Greenways: A Guide to Planning, Design, and Development*. Washington, D.C.: Island Press. 351 pp.

Within the developed landscape, greenways serve a dual function: they provide open space for human access and recreational use, and they serve to protect and enhance remaining natural and cultural resources. This manual provides interested organizations and concerned individuals with background information about planning a greenway project, how to enlist local assistance in organizing project support, funding the project, related water recreation, greenway safety and

liability, management, and planning for the care of rivers, streams, and wetlands. Information is provided on preserving stream and river functions, the impacts of urbanization on riparian regimes, and the establishment of organizational partnerships to plan, realize, and preserve greenway arrangements.

Geis, D.E. 2000. "By Design: The Disaster Resistant and Quality of Life Community." *Natural Hazards Review* 1(3):151-160.

According to Geis, the present approach to designing and building communities is inadequate and is inflicting great and growing harm—physically, environmentally, socially, economically, and emotionally—that we can no longer tolerate. The disaster resilient community concept, the first step toward creating quality-of-life communities, was created specifically to provide a new way of thinking. A number of basic questions need to be addressed. What are Disaster Resistant Communities? Why are they important? What are the benefits? What is the relationship between a Disaster Resistant Community and a sustainable quality-of-life community? And, most importantly, how do we go about creating them? This article provides the answers to these questions so that the concept can be better understood and used to its fullest potential.

Kline, Elizabeth. 1997. *Sustainable Community: Topics and Indicators*. Available at <http://ase.tufts.edu/gdae/modules/modinstruct.html> [accessed June 22, 2001]

These narratives about sustainable community indicators were developed under a contract with the U.S. Environmental Protection Agency. The primary audiences are community practitioners and technical resource people.

Mileti, Dennis S. 1999. *Disasters by Design*. Washington, D.C.: The Joseph Henry Press. 351 pp. Available at <http://books.nap.edu/catalog/5782.html>. [accessed September 21, 2001]

This book is a summary volume of the Second National Assessment of Research on Natural Hazards with the formal mission of summarizing what is known in the various fields of science and engineering that is applicable to natural and related technological hazards in the United States, and making some research and policy recommendations for the future. It summarizes the hazards research findings from the last two decades, synthesizes what has been learned, and outlines a proposed shift in direction in research and policy for natural and related technological hazards in the United States. *Disasters by Design* is intended for a general audience, including policymakers and practitioners.

North Carolina Emergency Management Division and Federal Emergency Management Agency. 2000. *Hazard Mitigation in North Carolina: Measuring Success*. Raleigh, NC.

To accelerate the institutionalization of hazard mitigation in North Carolina, the North Carolina Emergency Management Division established the Hazard Mitigation Planning Initiative, a long-term program to build local capacity to implement mitigation policies and programs in communities across the state. Through a series of case studies, this study documents losses avoided as a result of the implementation of a wide range of mitigation measures, including elevations and the acquisition and relocation or demolition of floodprone properties.

Rueter, Patty. 1998. *Town Centers: Why? What? How?* Portland, OR: Portland State University, School of Urban and Public Affairs, Institute of Metropolitan Studies, Community Fellowship Program.

This report is a study of Portland's growth management challenge including reviews of history, standards, and societal needs as they related to recent community involvement in Portland's town center planning process.

Rural Voices 5 (Fall)

This special issue of the magazine, produced in 2000 by the Housing Assistance Council, featured several stories on the "Lessons from Disaster." The Housing Resource Council has also written a guide that explains resources available from federal and state governments for rebuilding housing after a disaster, on a temporary basis or long-term. Contact the national office at (202) 842-8600 or hac@ruralhome.org

Schwab, Jim; Kenneth C. Topping, Charles C. Eadie, Robert E. Deyle, and Richard A. Smith. 1998. *Planning for Post-Disaster Recovery and Reconstruction*. PAS Report No. 483/484. Chicago, IL: American Planning Association. 346 pp. Abstract available at <http://www.planning.org/apapubs/details.asp?Num=1178> [accessed September 21, 2001]

This document helps community leaders and planners educate their constituents on how informed decisions and choices can affect the rebuilding process and yield a safer, more sustainable community. This report introduces planners to their roles in post-disaster reconstruction and recovery, and provides guidance on how to plan for post-disaster reconstruction side by side with all other players involved. A key theme throughout this report is to rebuild to create a more disaster-resilient community. The report contains many references to technical resources.

U.S. President's Council on Sustainable Development. 1997 *Sustainable Communities Task Force Report*. Washington, D.C.: U.S. Government Printing Office. 186 pp.

This report, and its companion volume, *Sustainable America: A New Consensus for Prosperity, Opportunity, and a Healthy Environment for the Future*, published in 1996, lay out a set of policy recommendations for planning for sustainable communities. One of the recommendations is to "shift the focus of the federal disaster relief system from cure to prevention." The appendix contains case studies of communities that have set forth sustainability principles, profiles of communities in the 50 states, state-led sustainability initiatives and organizations, and a list of resources for sustainable communities.

Additional Reading

Baruch, S. and M. Baruch. 2000. "The Economic Vulnerability of Rural Businesses to Disasters" *CUSEC Journal* 7(21):8-9.

Department of Housing and Urban Development. 1998. *Building Communities and New Markets for the New Century*. Washington, D C.: U.S. Department of Housing and Urban Development. 78 pp. plus second volume of appendices.

- Hanson, Kate and Ursula Lemanski. 1995. "Converting flood 'buyout' areas to public open space: Case studies from Iowa." Pp. 95-100 in *From the Mountains to the Sea--Developing Local Capability*. Proceedings of the Nineteenth Annual Conference of the Association of State Floodplain Managers. Special Publication 31. Boulder, CO: Natural Hazards Research and Applications Information Center.
- Harper, C. 2000. "Design and Construction Can Help Rural Homes Avoid Wind Damage." *Rural Voices* 5(4):5-7.
- Hauer, Andrea. 1996. "The Power of Water in Des Moines, Iowa." *Forum for Applied Research and Public Policy* 11(3):131-33.
- Moran, E.F. 2000. "North Carolina Disaster Recovery: Lessons Learned." *Rural Voices* 5(4):12-15.
- New York Times*. 1999. "Suburbia Learns It Has Paved Over the Natural Defenses to Flooding" Wednesday, September 29: B1&B8.
- Tibbetts, John. 1998. *Open Space Conservation: Investing in Your Community's Economic Health* Cambridge, MA: Lincoln Institute of Land Policy.
- Shookner, Malcolm. 1997. *Quality of Life Summary Report*. Toronto, Ontario, Canada: Social Development Council and Social Planning Network of Ontario <http://www.qli-ont.org/report.html>
- Watson, B. 1996. *A Town Makes History Rising to New Heights*.
<http://www.sustainable.doe.gov/articles/smithsonian/index.shtml> and
<http://www.sustainable.gov/success/Valmeyer.shtml>

BUILDING ECONOMIC VITALITY INTO DISASTER RECOVERY — WHERE TO FIND INFORMATION —

Training Courses and Workshops

Federal Emergency Management Agency, Emergency Management Institute, National Emergency Training Center. Emmitsburg, Maryland. <http://www.fema.gov/em> [accessed June 15, 2001] (301) 447-1035.

- “Disaster Resistant Jobs Training Course: Train-the-Trainer.” Course materials include videotape and hard-copy training materials.
The U.S. has experienced multiple major catastrophic natural disasters in recent years, causing severe physical and economic damage to states and local communities. This experience demonstrates that disasters have long-term impacts on the nation’s economy. It is in the best interest of government to help accelerate a community’s postdisaster economic recovery and to safeguard its jobs by insulating the local economy from the impact of future disasters. Building partnerships among individuals, businesses, and government is the most effective way to achieve this goal. This course teaches participants to: 1) understand what the term “disaster-resistant community” means; 2) be able to use a disaster “Tool-Kit;” 3) understand the importance of creating disaster-resistant jobs; 4) understand the role of integrating disaster-resilient economic development planning in a community; 5) understand the components of the disaster-resilient economic development planning process; and 6) identify a key audience to target and develop a brief presentation that conveys the importance of organizing efforts to build disaster resistant communities.
- “Disaster-Resistant Jobs Training.” Federal Emergency Management Agency Course G246.
This 2-day course is designed to highlight the need for the local business community to mitigate and prepare for disasters. Communities must protect their economic base in order to survive and thrive in the wake of a disaster. This course will help local leaders recognize the impact of disasters on business and industry and what steps need to be taken to lessen the impact of disaster on local jobs.

University of Vermont, Applied Curriculum for Community Economic Sustainability (ACCESS). Burlington, Vermont. <http://www.uvm.edu/~jkolodin/access/> [accessed August 3, 2001]

The ACCESS program has three specific objectives: 1) to introduce “real” problems of rural enterprise/local government into three capstone courses; 2) to develop case studies and integrate them into the required introductory course for all majors; and 3) to give students the experience to utilize knowledge gained in the classroom, using Vermont as their laboratory, through internship opportunities across the state.

Organizations

Federal Emergency Management Agency. "Assessment of the Economic Impact of Hurricane Floyd on North Carolina Communities." FEMA Virtual Library and Reading Room.

This contains a "Resource Guide for Business Recovery."

See http://www.fema.gov/library/a_dr1292nc.htm [accessed August 3, 2001]

Minnesota Sustainable Communities Network (MnSCN).

MnSCN is sponsored by the Minnesota Office of Environmental Assistance. The goal of MnSCN is to "encourage networking, information exchange, and better access to assistance." The network contains over 1500 individuals, businesses, local governments, educational institutions, and organizations who are interested in promoting sustainability in Minnesota.

See <http://www.nextstep.state.mn.us/index.cfm> [accessed June 22, 2001]

W.K. Kellogg Collection of Rural Community Development Resources.

This collection, housed in Lincoln, Nebraska, contains community development materials funded by the Kellogg Foundation and other selected sponsors of recognized rural programs.

Guidebooks, manuals, workshop materials, reports, books, and videos are included. The collection is searchable via the internet, although the collection itself is non-circulating.

See <http://www.unl.edu/kellogg/main.html> [accessed June 15, 2001]

Videos, CD-ROMs, and DVDs

Taking the Initiative. Federal Emergency Management Agency, Emergency Management Institute. 2000. Emmitsburg, MD.

This 20-minute video shows how a neighborhood, two small towns, and a business owner took responsibility for and got organized to adopt sustainability principles and techniques in coping with hazards. The three separate instances, all in California, illustrate participatory processes, taking initiative, looking at the economic benefits of hazard mitigation (in one case, elevating a restaurant), incorporating livability components into a flood protection measure, and protecting the local environment and habitat. The video is available from the Emergency Management Institute at 1-800-238-3358. Ask for the "Disaster-Resistant Jobs" video.

Quality Redevelopment of Eastern North Carolina. Horizon Video Productions. 2000. Durham, NC.

This 20-minute video was produced by the state in the aftermath of Hurricane Floyd to introduce and educate local and state officials about the "better ways" available to recover from the disaster and at the same time address other local concerns such as environmental quality, economic vitality, housing, sense of community, business and job opportunities, and disaster mitigation. It introduced a framework espoused by the state for sustainable community action and features the governor explaining the tenets of "quality redevelopment" and how it can—and did—benefit North Carolina communities and help ensure a better future for the state's citizens. Available from North Carolina Department of Emergency Management, 1830-B Tillery Place, Raleigh, NC 27699; (919) 751-8000; fax: (919) 715-9763.

Mitigation Revitalizes a Floodplain Community: The Darlington Story. Wisconsin Department of Natural Resources. 1997. Madison, WI.

This is a splendidly produced videotape about the efforts of a small rural Wisconsin community to reverse the effects of neglect and disinvestment in its historic downtown area caused by repeated flooding and economic change. Using a multi-objective planning and management strategy, officials and citizens, in partnership with government agencies and private entities, identified six goals: 1) preserve the historic character of the downtown; 2) restore community pride; 3) acquire and relocate commercial properties at risk; 4) elevate and flood proof commercial and residential structures; 5) stimulate investment downtown; and 6) pursue tourism as an economic strategy. The video follows the mitigation process from early meetings through floodproofing and relocation. Produced by the Wisconsin Department of Natural Resources. 27 minutes. 1997. Available free from Wisconsin DNR, P.O. Box 7921, Madison, WI 53707-7921; (608) 264-9200.

Books, Articles, and Papers

Aguirre International. 1996. *EDA's Post-Disaster Assistance Program After Hurricane Andrew: Final Report.* Washington, D.C.: U.S. Dept. of Commerce, Technical Assistance and Research Division, Economic Development Administration. 128 pp.

After Hurricane Andrew in south Florida in 1992, the Economic Development Administration (EDA) helped communities and organizations by providing over \$50 million in planning grants and revolving loans; infrastructure projects and building renovations and improvements; and training and technical assistance programs. This report evaluates the effectiveness of these programs, asking: Can appropriate economic assistance help communities regain their former condition and even enhance their quality of life? and, Does such assistance have implications beyond the immediate disaster area? Researchers examined the effectiveness of projects in attaining specified goals, the appropriateness of each project to the needs created by the disaster, the economic impacts of the projects, and the social impacts on and benefits to target populations. They discovered that EDA projects have a regional impact, projects do stimulate economic growth, and EDA was generally effective in maintaining an ongoing relationship with local officials and potential grantees.

Arnold, Matthew B. and Robert M. Day. 1998. *The Next Bottom Line: Making Sustainable Development Tangible.* Washington, D.C.: WRI Publications. 64 pp.

This report tries to bring sustainable development down to earth for a business audience. Its authors break down the abstract ideals of sustainable development into ideas small enough to grasp and powerful enough to lead to new business opportunities. The authors offer a road map for businesses to find financial success in the solutions to environmental and social challenges.

Becker, William S. and Roberta F. Stauffer. 1994. *Rebuilding the Future—A Guide to Sustainable Redevelopment for Disaster-Affected Communities.* Golden, CO: U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Center of Excellence for Sustainable Development. 18 pp.

This document summarizes why sustainability is important and gives an example of sustainable development in one community, Soldiers Grove, Wisconsin. The reader is walked step-by-step

through the holistic recovery process. The last chapter discusses real-life problems that the planner may encounter. There is an appendix to the report with a comprehensive list of resources. This document is available online at <http://www.sustainable.doe.gov/articles/RFTF1.shtml> [accessed June 15, 2001]

Berry, Wendell. 2000. "A Return to the Local: You Stay Home Too." *Worldwatch* (September/October):29-33.

Berry argues that the basis of a sustainable economy is vitality of local economies, which are fundamentally different from the global system.

Casey-Lefkowitz. 1999. *Smart Growth in the Southeast: New Approaches for Guiding Development*. Washington, D.C.: Environmental Law Institute Research Publications.

The southeastern United States has been trying to find ways to continue to reap the benefits of the region's bustling economy without the mounting fiscal, health, and environmental costs of poorly planned development. This report provides an overview of land use and transportation trends in seven states—Alabama, Georgia, Florida, North Carolina, South Carolina, Tennessee, and Virginia—and shows how these states are beginning to shape the pace and location of development by promoting community revitalization, conservation, and transportation alternatives.

Childers, Cheryl and Brenda Phillips. 1998. *Sustainable Development or Transformative Development? Arkadelphia, Arkansas After the Tornado*. Quick Response Research Report #109. Boulder, CO: Natural Hazards Research and Applications Information Center. 12 pp.

The authors visited the small town of Arkadelphia, Arkansas after an F-4 tornado had destroyed much of its downtown and three residential neighborhoods. Leaders of this town characterized the rebuilding effort as "sustainable." The researchers interviewed 31 individuals representing organizations from the national level to the local level and ranging from paid staff to volunteers. They determined, as an initial finding, that residents of impacted communities apply "sustainable development" as it fits their understanding, needs, and interests. Also, the term began to mean different things to different people as recovery ensued.

Federal Emergency Management Agency. 1997. *Report on Costs and Benefits of Natural Hazard Mitigation*. Washington, D.C.: Federal Emergency Management Agency. 52 pp.

Are the costs to reduce or eliminate the impacts of natural hazards substantially less than the benefits they provide? This report reviews the benefits that can accrue to different segments of society from mitigation, the costs that can be incurred by undertaking mitigation, and the analyses needed to evaluate the cost-effectiveness of the measures. It has 16 case studies across the United States and demonstrates their efficiency against several types of natural hazards, as well as the effectiveness of other mitigation tools. The studies include seismic retrofitting of lifelines in Tennessee, reinforcement of highway bridges in California, historic preservation and community development in Wisconsin, mitigation in hospitals in California, reduction of business interruption costs in Iowa, seismic retrofitting in Los Angeles public schools, wind shutter protection in Florida, acquisition and relocation of floodplain structures in Missouri, regulation of unreinforced masonry buildings in Los Angeles, land use and building regulation

along the coasts of Florida, land-use and building requirements in floodplains, and seismic retrofitting to avoid business disruption. The cases include both public- and private-sector initiatives.

Institute for Business and Home Safety (IBHS). 1999. *Open for Business: A Disaster Planning Tool Kit for the Small Business Owner*. Institute for Business and Home Safety.

This tool-kit is designed to help small business owners identify the hazards they may face, plan for and reduce the impact of disasters, keep their business open when disaster hits, and advise on insurance, disaster supplies, and other things the business owner can do to make his/her business more disaster resistant.

Kline, Elizabeth. 1997. *Sustainable Community: Topics and Indicators*. Available online at <http://ase.tufts.edu/gdae/modules/modinstruct.html> [accessed June 22, 2001]

These narratives about sustainable community indicators were developed under a contract with the U.S. Environmental Protection Agency. The primary audiences are community practitioners and technical resource people.

Louisiana Governor's Office of Rural Development. n.d. *Louisiana Small Towns Program*. Baton Rouge, LA: Louisiana Governor's Office of Rural Development.

The Louisiana Governor's Office of Rural Development, under a grant from the U.S. Economic Development Administration, conducted the Louisiana Small Towns Program to help communities plan for a successful future. This is a grant report with findings from the program.

Minnesota Department of Public Safety. *Recovery From Disaster Handbook*. St. Paul, MN: State of Minnesota. Available at http://www.dem.state.mn.us/publications/Recovery_Handbook/index.html [accessed July 23, 2001]

This handbook provides local units of government with guidance in long-term recovery after a disaster. The restoration process places great demands on government and the private sector. This manual will lessen the stress by providing answers and advice to many questions that arise from those who have dealt with recovery from disasters. Tool kits give information specific to each topic, some forms, and information to share with the victims of the disaster as they recover.

Philippi, Nancy S. 1996. *Floodplain Management: Ecologic and Economic Perspectives*. San Diego, CA: Academic Press. 225 pp.

When economic and ecological concerns conflict, effective floodplain management often suffers. The author examines the reasons behind these conflicts and points to solutions. She discusses the challenge of managing floodplains, the need for floodplain management, the public interest and how to define it, governments and their roles, harmful effects of floodplain management, case studies of the Mississippi and American Rivers, and scenarios for effective management. Appendices reprint several important documents useful for the understanding of floodplain management in the United States.

Public Works and Economic Development Association. 1999. *Economic Development Directory*. Prepared for the Economic Development Administration, U.S. Department of Commerce.

Washington, D.C.: Public Works and Economic Development Association. 153 pp.

This directory is a convenient and functional information tool to facilitate communication between the various elements of EDA's program components. It is meant to serve economic development practitioners, EDA grantees, associations, and others who are seeking information on EDA's economic development activities in all 50 states and territories.

San Francisco City Planning Department. 1987. *Earthquake Hazards and Housing—Summary Report*. San Francisco, CA: San Francisco City Planning Dept. 26 pp.

With a vacancy rate of less than 1%, San Francisco has virtually no low-rent replacement housing. A large portion of the existing low-rent housing stock is located in areas built of unreinforced brick—a structure type particularly vulnerable to earthquakes. To help maintain a safe low-income housing stock in the vulnerable unreinforced masonry (URM) buildings, this study was commissioned to examine the range of seismic retrofitting measures available for prototypical residential buildings in the city, and the financial profiles of owners and tenants in URM buildings. Using the experiences of other cities that have adopted retroactive URM building codes, the researchers applied the specifications of their seismic strengthening requirements to the masonry building stock in San Francisco.

Tierney, Kathleen J. 1995. *Impacts of Recent U.S. Disasters on Businesses: The 1993 Midwest Floods and the 1994 Northridge Earthquake*. Preliminary Paper No. 230. Newark, DE: University of Delaware, Disaster Research Center. 53 pp.

This report utilizes a methodological approach first applied to the Des Moines area to try to ascertain how the 1994 Northridge earthquake affected businesses in Los Angeles and Santa Monica. Both studies survey both large and small enterprises and a range of business types. Topics discussed in the paper include physical damage to business properties; lifeline service interruption; rates of and reasons for business closure and relocation; use of insurance, Small Business Administration loans, and other sources of recovery assistance; and proprietor's assessments of business recovery and well-being at the time the surveys were conducted.

Additional Reading

Alesch, Daniel J., James N. Holly, Elliott Mittler, and Robert Nagy. 2001. *Organizations at Risk: What Happens when Small Businesses and Not-for-Profits Encounter Natural Disasters*. First Year Technical Report of the Small Organizations Natural Hazards Project, Center for Organizational Studies, University of Wisconsin—Green Bay. Fairfax, VA: Public Entity Risk Institute. Available at <http://www.riskinstitute.org/ptrdocs/OrganizationsatRisk.pdf>.

Chang, Stephanie. 1997. "Reconstruction and Recovery in Urban Earthquake Disasters." Proceedings of the 5th US/Japan Workshop on Urban Earthquake Hazard Reduction. Oakland, CA: Earthquake Engineering Research Institute.

Department of Commerce. 2000. *Out of Harm's Way*. (Pamphlet.) Washington, D.C.: U.S. Department of Commerce, Economic Development Administration.

Federal Emergency Management Agency. 1998. *Protecting Business Operations: Second Report on Costs and Benefits of Natural Hazard Mitigation*. Washington, D.C.: Federal Emergency Management Agency. 41 pp.

International Red River Basin Task Force, 1999. *An Assessment of Recovery Assistance provided after the 1997 Floods in the Red River Basin: Impacts on Basin-wide Resilience*. Report prepared by the Natural Hazards Center, University of Colorado and the Disaster Research Institute, University of Manitoba for the International Joint Commission's Red River Basin Task Force. Ottawa, Ontario, Canada: International Joint Commission. Available at <http://www.ijc.org/boards/rrb/Recovery%20Assistance.pdf>. [accessed September 21, 2001]