



PROMOTING SOCIAL AND INTERGENERATIONAL EQUITY DURING DISASTER RECOVERY

A sustainable community seeks to enhance social capital in a way that makes everyone's life better by not making someone else's worse.

—Hart Environmental Data Trainers' Workshop

INTRODUCTION

To achieve sustainability, every community must decide, What is essential for a good life? What should be sustained and for whom? How should people live now so that future generations are not penalized? How many future generations should be taken into account? Who will manage continued sustainability and in whose interest will it be managed? (Mileti, 1999).

These questions can be partly answered, at least philosophically. But the answers are complicated by race, gender, socio-economic class, ethnocentrism, and cultural values. In reality, each question must be addressed within the community, possibly with the help of informed outsiders.

In true social and intergenerational equity, each person has an inherent right to exist, survive threats, have access to resources, and pursue a decent life, despite his or her social or economic status. By the same token, unborn generations must inherit opportunities for a good life that have not been diminished by those who came before them.

A post-disaster recovery that promotes social and intergenerational equity—an equal chance to survive across time—means that every stakeholder gets a chance to participate and benefit from recovery processes. A stricken community pursuing a holistic recovery will use opportunities presented by the disaster to improve existing social inequities and not just return people to their pre-existing situations. This chapter explains how the sustainability principle of promoting social and intergenerational equity can be pursued during disaster recovery.

Social equity and acceptance of responsibility to future generations are essential parts of holistic recovery. This means avoiding disproportionate treatment of or impacts to vulnerable persons, avoiding exporting costs and risks—downstream, alongshore, to taxpayers, to the environment—and to the future. Intergenerational equity; adopting a long-term view; preserving

and restoring natural, historical, cultural, and archaeological resources are also essential components of sustainable redevelopment that can occur after a disaster.

In a holistic disaster recovery, people need also to consider how issues of equity intersect and interconnect with rebuilding transportation, public facilities, utilities, housing, economic disruption, the physical environment, health and safety, and social connections—families, neighborhoods, communities, and cultures or ways of life.

According to Boyce (2000), social vulnerability can be viewed from two perspectives. One is the wealth-based approach, explained as “those individuals who are willing (and, perforce, able) to pay more, deserve to get more.” The rights-based approach, on the other hand, emphasizes “the egalitarian distribution of the right to a clean and safe environment,” implying that each person has an inherent right to live despite money and other resources that permit wealthier households to reduce risk. A rights-based approach tends to be followed in countries that emphasize such democratic rights as voting and public education, with constitutions that spell out that each person is “created equal” and holds “certain unalienable rights.”

In a broad sense equity means freedom from bias or favoritism. It means equal access to resources, equal allocation and treatment of societal risk, and equal consideration of competing interests. “Social equity means understanding how environmental degradation and risk differently affect groups defined by class, age, race, political, or gender distinctions” (Cutter, 1995).

How Does Inequity Develop?

The likelihood that an individual will benefit from society may vary according to what society has historically made available to the larger group to which that individual belongs. Princeville, North Carolina, for example, is a community founded by ex-slaves generations ago with land granted to them—in a floodplain. Nevertheless, Princeville developed into a closely knit community where people felt connected not only to each other but also to the land, as a symbol of freedom.

People also tend to live in different social and economic locations. Upper middle class families, for example, are not very likely to live in same type of housing as a widowed woman living alone on Social Security payments. People who do not live near each other or seek each other out cannot fully comprehend the others’ realities and resources. Living a middle-class life, for example, with the benefit of education and employment experience, may better prepare some people to manage bureaucracy—a task that others may find cumbersome.

A common phenomenon across the country is known as NIMBYism—Not In My BackYard-ism. Traditionally, more powerful, better educated, and more affluent citizens are able to organize to prevent an unwanted element—asphalt plant, public housing, trailer park—from being placed in their “back yards.” This can put less powerful groups at higher risk as noted by a number of researchers and activists. An entire movement known as “environmental justice” has identified numerous areas across the United States (toxic sites and incinerators, for example) placed near African American communities, trailer parks, and public housing units. To avoid this sort of inequity, a community needs to be aware of whether rebuilding is taking place on hazardous or

otherwise undesirable sites. Who are the influential groups in the community and what is their impact on reconstruction? To whom is risk being transferred as a result of the political process?

Groups that may be Particularly Susceptible to Inequity

A fairly new web site from the California Office of Emergency Services lists a variety of vulnerable groups and web links to organizations that assist such populations. Based in part on this web site (www.preparenow.org) and research by dozens of social scientists, a partial list of groups that may be particularly vulnerable in disaster and/or have more difficulty recovering from one can be constructed. However, no particular group should automatically be assumed to be vulnerable; nor should this list be considered exhaustive.

Low-income households: How much money people have influences what type of housing they live in, whether they can engage in mitigation actions, and how long it takes to recover. Income is probably the most difficult challenge to address, because it is not based solely on an individual but is influenced by the larger economy, the availability of jobs, educational opportunity, and much more. Expenses also vary by location: rural places are cheaper to live in but have fewer job opportunities, while urban areas may be exceptionally costly, even for renters.

Single parents: “Single parent families, usually with low incomes and typically with constraints upon the time of the sole parent . . . may have lacked opportunities to fully participate in some community recovery activities” (Buckle, 2000).

Medical needs (physical and psychological): People who rely on certain types of machinery (ranging from life support to oxygen) are subject to increased risks after an earthquake or during evacuation for a hurricane. Fear and confusion might be experienced by residents of a school for the mentally challenged or those at an institution treating psychiatric illnesses.

Language and literacy: In 1988, the small Texas town of Saragosa was hit by a major tornado. Although the local news station tried to broadcast a warning, the translation used ineffective wording, contributing to a number of deaths. A community’s outreach efforts should also include non-print imagery for people who cannot read.

Elderly: The elderly may be overlooked in considering holistic recovery because of the stereotypical notion that they are not producers for a community but burdens. They may experience difficulty with bureaucratic regulations after a disaster, perhaps not qualify for loans, or become disabled as a result of the event itself.

Homeless and street children: The most rapidly growing group of homeless is families. Little is known about what happens to them after disaster, although some researchers have found that familiar places (doorways, traditional shelters) are often ruined or permanently altered, further displacing the homeless. After housing stock is depleted by disaster, the homeless get pushed further back in the line for a place to live. And, although some homeless persons may find temporary shelter in disaster facilities, they typically go back to the streets when they close.

A Letter from an Earthquake Survivor

I was not wearing my hearing aids that morning, of course, it was 4:31 in the morning. After the shaking stopped, I was too afraid to get up. When my foot hit the floor, my bare feet felt every piece of glass that had broken. My neighbors interpreted everything via lip-reading for me regarding the radio announcements. My husband was out of town, I was alone and extremely scared; my husband is profoundly deaf, no one even told him there had been an earthquake or that Northridge was the epicenter.

A friend told us about [the Federal Emergency Management Agency] and that it might be able to help us get a new telecommunications device for the deaf (TDD), a vibrating alarm clock, a light alarm. I went to the temporary FEMA office and filled out papers and tried to apply. There was no interpreter. I waited one month to hear any feed back from FEMA. After four months, I went again but got the same old answers. FEMA made no attempts to find an interpreter for me and the interpreter I had brought did not have the skills needed to convey my message. I had lost. I was too tired, too sad, too frustrated and too overwhelmed with just trying to get on with my life. Someone later suggested I call my congress woman. I did and three days later I had a FEMA check. Almost nine months had passed ...”

The marginally housed: After the 1989 Loma Prieta earthquake, dozens of families living doubled and tripled up lost their tenuous claim on shelter. Inspection teams condemned marginal units like garages that had previously housed people, exacerbating the situation.

Immigrants: Recent arrivals to the United States, documented or not, face a complex array of tasks including language barriers, understanding bureaucratic rules and regulations, fear of military assistance, fear of deportation, and not being included in long-term recovery efforts. Lack of respect for religious customs can also contribute to social inequities. Recent immigrants from the Middle East, for example, may follow religious norms of modesty and separation of the sexes that usually are not accommodated in emergency shelters and may influence who participates in community activities.

Transients, newcomers, and tourists: People who pass through, stay temporarily, or have recently arrived in a community may not hear warnings, know where to take

shelter, or have resources immediately available to them. Communities must plan to reduce their vulnerability, particularly in communities with large tourism industries.

Isolated households, farms, and ranches: Consider the situation of families living in remote and/or rural areas who face multiple issues. Farmers and ranchers, for example, face continued stock mortality after an event, when cattle and other animals eat glass, insulation and other debris—or are injured by flying debris and have injuries go unnoticed.

Differently abled: After Hurricane Andrew, the U.S. military put up tent cities, cooked food, and provided general assistance. However, as one officer noted, “we don’t have disabled people in the Marines;” he then hastened to have a squad construct wheelchair ramps to the portable latrines. Persons who are differently abled are often inadvertently left out of disaster recovery.

Racial and ethnic minorities: In an extensive review of research studies on race, ethnicity, and disasters, it was found that minorities experienced longer recoveries due to lower incomes, savings, and insurance; experienced differences in access to insurance; and used aid and relief organizations differently than was expected by the predominantly Anglo emergency management sector (Fothergill et al., 1999). Recovery organizations may not understand some culturally based needs.

Children: Society tends to be adult-oriented. If single parents are to participate in recovery activities and sustainability planning, child care must be provided. Involving children and teenagers in community recovery activities and planning facilitates healing and promotes lifelong civic participation.

Lesbian and gay households: Little is known about homosexual families after disaster other than to speculate that the hostility they experience every day may be exacerbated. In addition, some groups and organizations may deter aid because of a person's sexual orientation. It may not be safe for a local teacher, for example, to be open about a sexual orientation even if his or her lifetime partner was killed or injured in the event.

Battered women: Incidents of relationship violence may increase after disaster. Certainly, shelters report higher numbers of and increased disabilities to deal with post-traumatic stress.

Future generations: It goes without saying that the people of the future are not able to voice their needs and desires in today's communities. But the components and characteristics of social and intergenerational equity rest on "not precluding a future generation's opportunity for satisfying lives by exhausting resources in the present generation" (Mileti et al., 1999, p. 33).

Multiple Susceptibilities to Inequity

It is impossible to separate out each of the above categories and treat a person as if they fit only one. Imagine, for example, a differently abled, low-income woman. Is her ability or her income more significant? At times, one identity may take precedence, such as when a person who is deaf cannot communicate with a relief group. The intersection or combination of identities needs to be considered when promoting social equity in a community.

Overcoming Social Inequity

One way to begin to overcome inequity is to attempt to understand it, by putting oneself into the situation of others, listening to their experiences, and involving them in community recovery activities.

Promoting social equity means:

- avoiding generalizing from one's own experiences;
- not assuming that everyone is the same;
- refraining from judging others on the basis of one's learned values and beliefs;

- educating oneself about others;
- exploring ways to include all cultures;
- developing strategies that sustain people's ways of life.

RECOVERY STRATEGIES FOR PROMOTING SOCIAL AND INTERGENERATIONAL EQUITY

Part of the challenge of meeting the criteria of social and intergenerational equity during disaster recovery inevitably involves “narrowing the gap between the haves and have-nots” according to the Association of Bay Area Governments. Although ideally this is an ongoing process in a

OPTIONS FOR PROMOTING EQUITY

- Preserve social connections in and among groups.
- Preserve natural, cultural, historical resources.
- Adopt a longer-term focus for all planning.
- Avoid/remedy disproportionate impacts on groups.
- Consider future generations' quality of life.

community, disaster recovery can provide an opening for tackling some inequities. A community can start with the *situations* that exist after a disaster, pick and choose among the *options* for improving social and intergenerational equity and among the implementation *tools* available to help pursue each of those options, to develop *strategies* that are specially tailored to its own needs. The

Matrix of Opportunities in Chapter 1 shows some of the options a recovering community could use to work on equity issues while it tends to disaster-caused predicaments. The situations and options shown on the matrix, and the tools listed below, are not exhaustive; rather, they are meant to give an idea of the range of possibilities. Likewise, the sample strategies below suggest ways in which some options and disaster-induced situations could be combined to address social issues. Notice how each of the strategies suggested below uses one or more of the options listed on the Matrix of Opportunities under the third sustainability principle, “Social and Intergenerational Equity.”

Situation: Damaged transportation

Recovery Strategies to Promote Equity:

- Ask: Where are roadways and bridges being built? Will moving a road displace a neighborhood?

Situation: Damaged public facilities

Recovery Strategies to Promote Equity:

- Ask: What are the impacts of redevelopment decisions on vulnerable populations? Does a setback mean the loss of land?

Situation: Damaged housing
After a disaster, the local challenge of providing affordable and available rental and low-income housing is often worsened. For low-income and older homes, rehabilitation of homes is too expensive.

Recovery Strategies to Promote Equity:

A recovery strategy to maintain or even enhance social equity in housing was followed by Watsonville, California, which deliberately passed an ordinance that 25% of all post-disaster housing must be affordable. In doing so, they made it possible for many community members to remain after the disaster and also augmented the city's affordable housing stock.

An economically sound and permanent solution to flood problems from some points of view is a "buyout program," under which federal funds are used to purchase the homes and properties of people who live in hazardous (usually floodplain) areas. However, people in Princeville, North Carolina, rejected the buyout option even though the majority of the city is located in a floodplain. Places are important to people. The residents of Princeville had a set of important ties to the land and to each other.

- Ask: Is overcrowding resulting?
- Create a local grant-writing group to help acquire resources to rehabilitate homes whose owners cannot afford such projects.
- Although buyouts of floodprone property can be beneficial, a community should consider who is being bought out, where they are moving to, and who is being allowed to rebuild.
- Ask: Has the community replaced a devastated section of housing (trailers, for example) with the same, vulnerable housing?

Situation: Economic disruption

In rebuilding, communities must face comprehensive and connected questions about equity.

Recovery Strategies to Promote Equity:

- Ask: What happened to the business sector?
- Ask: What was the impact on jobs for vulnerable groups?
- Ask: What happened to the work force?
- If there was a loss in the tax base, find out what that means for services and needs of vulnerable groups.

Situation: Environmental damage

Preserving and restoring natural, historical, cultural and archaeological resources can help preserve social connections between and within groups, as well as saving important features for future generations. Everyone has seen flood videos of devastated historic cemeteries, museums, and sacred places.

Recovery Strategies to Promote Equity:

- Identify and prioritize such resources and places.
- Recognize the value of places and things as sources of people's identity and connection.
- Find funding and resources to restore and mitigate future impacts.
- Value diversity across natural, historical, cultural and archaeological resources.

Situation: Disruption to health and safety

The period after the last disaster is also the period before the next one. During recovery there may be a good opportunity to improve preparedness across the diverse groups in a community.

Recovery Strategies to Promote Equity:

- The American Red Cross may lead an educational effort for seismic bracing, hurricane awareness, or tornado season using materials designed for a variety of users: non-English speakers, persons who may be illiterate, children, the elderly, etc.
- Inter-organizational support of such efforts, for example having the fire department conduct earthquake drills at schools in conjunction with the distribution of materials, can assist the ARC with information dissemination.
- Each October the United Nations' International Strategy for Disaster Reduction holds Disaster Day, which could also become a community awareness event—the perfect day to hold a community disaster drill. Imagine, for example, having local theater groups act the part of disaster victims or local organizations that support persons who are differently abled participate in evacuation drills and rescues and benefit from interactive briefings on how disaster organizations work.

The Association of Bay Area Governments advocates recovery efforts that “encourage open discussion on the resolution of racial/ethnic problems in all aspects of community life, including housing and employment. This should be a broad-based effort involving schools, lenders, business and civic organizations, religious and community organizations and real-estate community.” For example, “advocate for a federal educational loan program that would facilitate efforts by low-skill/low-wage workers to train for higher skill/higher paid positions” and “encourage businesses to offer their employees financial and other incentives to continually upgrade their work skills.” Equally important to post-disaster housing recovery, ABAG’s indicators also “encourage citizens, business groups and local governments to pressure financial institutions to invest in housing and employment developments in the low-income communities they serve.”

Tools for Promoting Equity

Equity means balancing fair process and procedure, distribution of goods and services, and who pays. The residents of a community that supports these goals are likely to have strong ties to one another, making recovery from disaster easier to achieve. For that reason, many community-building activities can also be seen as a disaster recovery activities that promote social equity. To achieve sustainability, it is essential to create a community that supports all of its citizens; past, present, and future. There are a number of tools and techniques that can help accomplish this.

Public education and awareness campaigns and events

Pre-disaster planning presents one opportunity to reach out to groups or individuals that may not be aware of natural hazard risks. Examples of these groups might include the elderly, the differently abled, the mentally ill (and their caregivers), and marginalized groups such as poor and transient

populations. A community should try to plan ahead of a disaster for helping these populations, and use its education campaigns to engage the groups in planning for their protection and/or evacuation during a natural hazard situation.

TOOLS FOR PROMOTING SOCIAL & INTERGENERATIONAL EQUITY

- Public education and awareness campaigns and events
- Public-private partnerships and networks
- Ombudspersons
- Targeted workshops, information, and invitations
- Existing community activities
- Programs to assist populations at risk
- Community Development Block Grants
- Historic preservation efforts

Public-private partnerships and networks

Public-private partnerships and networks work like public education and awareness campaigns because they can be used to reach out to groups or individuals at risk from natural hazards. For example, the Federal Emergency Management Agency's Seismic Hazard Mitigation Program is a public-private partnership program designed to encourage seismic mitigation in hospitals. A community might be able to brainstorm other public-private partnerships to benefit populations at risk.

Ombudsperson

An ombudsperson can investigate the activities of government or other entities that may be infringing on individual rights. A community's ombudsperson ensures that equal protection laws are followed in sustainable disaster recovery and in planning for it.

Targeted Workshops, Information, and Invitations

Invitations to involve members of marginalized or minority groups throughout planning, decisionmaking, implementation, and evaluation activities will help the recovery team understand the culture and needs of marginalized groups. For example, differently abled people need to be involved in mitigation planning so that the plan provides for their special needs. Or, to take another example, minority groups might respond to proposed activities with the assertion that traditional recovery activities will not work for their group. For example, members of some religions may not feel comfortable in a shelter where both men and women are staying.

Existing Community Activities

Any and all community-building activities can be used as a basis for building a stronger, more equitable, disaster-resilient community. A neighborhood group formed to combat crime might use the social capital gained in its interactions to help one another in a disaster situation. When neighbors know and care about each other, they are likely to pull together in a crisis.

Programs to Assist Populations at risk

There are several government programs whose purpose is to help populations at risk mitigate or recover from disaster. Disaster Assistance for Older Americans is provided by the Department of Health and Human Services. The agency provides direct payments to state agencies focused on aging-related services. Mental Health Disaster Assistance is also provided by the Department of Health and Human Services. These are project grants to provide emergency mental health and substance abuse counseling to individuals affected by a major disaster.

Forbearance on Veterans Administration (VA) Home Loans is also available. The program encourages lenders to extend forbearance to VA loan holders who have experienced disaster and are in distress.

Community Development Block Grants

Community Development Block Grants, provided through the Department of Housing and Urban Development, are used to benefit entitlement communities. The preferred use of funding is for long-term needs, but funding may also be used for emergency response activities. The state's program provides formula grants to non-entitlement communities.

Historic Preservation

A community may value historic structures, even if they are in hazard-prone areas, and wish to preserve them for future generations. If a community wants to do this, there are at least two programs to assist them. The Federal Emergency Management Agency's Repair and Restoration of Disaster-Damaged Historic Properties is used to evaluate the effects of repairs to, restoration of, or mitigating hazards to disaster-damaged historic structures in accordance with the requirements of the Stafford Act. In addition, Historic Preservation Fund Grants-In-Aid are available from the National Park Service. These are matching grants provided to states to expand the National Register of Historic Places, the nation's listing of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture.

PURSUING STRATEGIES FOR SOCIAL AND INTERGENERATIONAL EQUITY

Once the recovery ideas—or strategies—for addressing social equity are identified, the community will need to explore them through a systematic process in order to decide on the best approach, select feasible tools, locate technical assistance, formulate details, plan for action, find funding, get approval, and move toward implementation.

Planning and mitigative action before a disaster strikes are always best. If a community is engaging in sustainability planning before a major disaster, wonderful! As noted throughout this chapter, comprehensive planning, public/private partnerships, and increasing citizen participation across diverse groups all build foundations for starting a community's holistic recovery.

But even without a formal plan, after a disaster the 10-step process can help remedy some disaster-induced situations while also building and promoting social and intergenerational equity.

Promoting Social and Intergenerational Equity During the 10-Step Recovery Process

Strategies for equity can be carried out in the context of the overall disaster recovery. Within the 10-step process described in Chapter 2, the following activities in particular will help ensure that social equity is improved during a community's disaster recovery.

Actions to take during Step 1, Get Organized

Efforts to make sure that a fair distribution of risk exists begins with getting to know all parts of the community (preferably well in advance of disaster) and incorporating everyone into the recovery process.

- Start by looking at census data and learning about recorded diversity: race, ethnicity, income, gender, age, and housing. Remember that census data often miss people, so social services agencies should be contacted for information.
- Consider equity issues as they intersect groups: an elderly Latina woman who speaks Spanish but not English; a recent immigrant to the area; a low-income household.
- Refer back to the list of historically vulnerable groups in the first part of this chapter.
- Identify agencies and organizations that work with, serve, or represent these constituencies.
- Go to and invite a wide variety of persons, groups and organizations to offer input, insights, suggestions on who is at risk and how they relate to the notion of sustainable disaster recovery.

Actions to take during Step 2, Involve the Public

Historically marginalized and excluded groups may believe they are not able to effect change. People who believe they are powerless (economically, politically) to effect change may need opportunities to develop their collective strengths and to become re-empowered. Empowering people enables them to buy in to the recovery process, to speak up, and to lead. See Chapter 3 for ideas on how to use a participatory process during recovery.

- Identify organizations within groups, neighborhoods, and communities.
- Volunteer for community organization activities.
- Attend ethnic festivals.
- Hold neighborhood-based meetings or “charettes” to help citizens visualize their homes and streets after the recovery, including issues of access, public space, safety, pedestrian orientation, etc.

Actions to take during Step 3, Coordinate with other agencies, departments, and groups

Going to people, in their space, and listening to their concerns tells affected citizens not only that officials and emergency managers care, but that they are stakeholders in the long-term viability of their community. Doing so honors the realities and experiences and perspectives of the affected and the vulnerable, breaks the notion of insiders and outsiders. It also undermines the

social, economic and political splits that created inequity in the first place. Finally, reaching out and including diverse stakeholders lessens the potential that a decision imposed on a minority will be rejected (Roseland, 1998).

Involving a wide variety of recovery partners increases diversity of ideas and potential solutions, a labor pool, and creative problem-solving. It also begins to accomplish what makes a recovery truly sustainable: it builds local capacities within and across groups.

- Seek out community organizations who work with known groups and actively solicit information about where victims are gathering and what they see as important recovery issues, especially barriers to recovery.
- Part of this outreach process involves looking for those “intersections” and sometimes hidden equity issues. Consider, for example, how the deaf, people homeless before the earthquake, recent immigrants to the community, and women who were battered will be involved.
- Develop and maintain formal and informal relationships with community leaders across diversity.

Actions to take during Step 4, Assess the Equity Problems

Local people best know their situation, their needs, and effective recovery approaches. Recovery efforts that are imposed on people may not take into consideration the realities of vulnerable groups. Immigrant families to south Florida faced the reconstruction of housing that resembled that of traditional middle-class Anglo families—house after house, block after block—which resulted in the loss of community and connectedness they preferred through housing with common outdoor areas. Telling people to bolt furniture to the walls as part of seismic-bracing for future earthquakes doesn’t work for low-income households, and may be challenging for persons using wheelchairs or for the elderly.

- What do locals see as their recovery problems?
- How do those problems affect marginalized groups? Consider obvious ways (a flooded home) and less hidden ways (loss of jobs or having to work in earthquake-vulnerable buildings).

Actions to take during Step 5, Evaluate the problems

Once officials, emergency managers, and recovery personnel have identified vulnerable groups within the community, it becomes imperative to work with them in their own context—and to invite their participation in the recovery process. This will build a broader base of support and knowledge for the recovery and is likely to result in victims buying into the recovery scenario.

What was done poorly or inequitably before the disaster that could be improved upon now? For example, what will be the effect of rebuilding roads and bridges? Will some groups have to be moved out of a floodplain? What happens to housing that may be in the way of the new road or bridge? How did the disaster impact existing housing stock? What was the impact on the pre-disaster homeless? Those living in overcrowded conditions? Those living at poverty levels? What happened to rental units, public housing, congregate care facilities, shelters?

Which groups are at risk and in what ways—such as low-income elderly residents who are unable to mitigate or evacuate? Where are people living doubled and tripled up or in vulnerable housing? Where are people living on the streets? Are there persons with significant medical and

health needs who live in isolated conditions? What languages are used for warnings and are they consistent with local needs? Are materials written for both literate and illiterate populations? Is there a plan for child care so that single parents can participate in recovery charettes? Is there an interpreter for the deaf community?

Actions to take during Step 6, Set goals and objectives

As the participatory Chapter 3 suggests, involving stakeholders in planning goals and objectives for a holistic recovery should lead to reduced physical and social vulnerability and to diversified participation. Involving individuals, groups, agencies and organizations connected to marginalized groups in the decisionmaking process is critical. Perhaps the most important thing during this step is to ask, How do community goals and objectives impact vulnerable groups?

Actions to take during Step 7, Explore alternative strategies

This is the point at which different ways are explored for combining options for promoting social and intergenerational equity with the disaster-caused situations the community is facing. Select from the opportunities identified under Step 5, the goals and objectives set in Step 6, and the options and tools described in this chapter. Expand and tailor them to meet a community's particular concerns. This also is a time to consider what the impacts of different alternatives would be on the marginalized groups in the community, and for the future. Reviewing alternatives means going back to vulnerable groups multiple times to gather information and solicit input.

To determine what the impacts of a given action might be:

- Check census data for existing and emerging populations.
- Identify characteristics of populations (age, income levels, type of residence, family size, race/ethnicity).
- Determine what criteria are being used to choose and prioritize the alternatives. Do they reflect the opinions, realities, and interests of vulnerable groups?

Such discussion should include consideration of the impact of decisions. For example, if a neighborhood is dramatically revised to exclude certain types of housing (like trailers), what is the impact on low-income people who want to return to live next to their pre-disaster neighbors? How can the neighborhood be made more accessible for persons who are differently abled? Assessments should be made: who will be excluded as a result of our decisions? How will a particular decision increase sustainability of future generations? By the same token, will any of the alternatives have a detrimental impact on other aspects of sustainability?

The City of Watsonville, California, hired an ombudsperson in the aftermath of Anglo-Latino conflict, as a way of making sure that communication increased. Having familiar faces from marginalized groups will improve communication, trust, and participation rates.

Actions to take during Steps 8, 9, and 10, Plan for action, get agreement, and implement

When working with historically disadvantaged and/or vulnerable populations, consistency, sincerity, and follow-through are everything. At this point, vulnerable groups will likely wait to see if planners and decisionmakers follow through, or if this is just another example of a broken treaty, failed promise, or adulterated process.

- Keep vulnerable persons, groups, agencies and organizations informed and involved
- Invite stakeholders to participate in the political process necessary to adopt the plan.
- Hold continued workshops in vulnerable areas with vulnerable groups to implement the plan.
- Invite stakeholders to participate in annual reviews and to assist with developing indicators as well as assessments (see next section on indicators).
- Network with local organizations for specific groups.
- Develop appropriate materials in needed languages.
- Train neighborhood groups and give talks.

Many local events that do not directly address disasters or marginalized groups nevertheless can be used as tools for promoting social equity.

- The “Make a Difference” Day has swept across the nation, involving communities in litter pick up and local environmental conservation activities.
- “Trash Bash” days target streamside litter pickup to reduce flooding problems and increase water quality. Such efforts to clean riparian eco-systems and preserve natural resources have a tendency to appeal across the political spectrum and involve diverse groups.
- Involving citizens on boards, committees, and task forces to do planning, code revision, environmental conservation, disaster preparedness, and community development educates and prepares future recovery stakeholders.
- Facilitating localized education about their community also works. Imagine, for example, facilitating neighborhood summits on issues of local importance. Working together to identify and address these issues fosters trust, communication, and cooperation that will serve the community well before and after a disaster.
- Some universities have volunteer trips for students during spring break in place of the traditional beach party. These programs could be tapped to bring in enthusiastic labor to address recovery problems such as the inability of lower-income or elderly people to rehabilitate their damaged housing. The Federal Emergency Management Agency used this idea to further mitigation through its Spring Break Initiative, under which student volunteers traveled to places like Oakland, California, to brace book stands to the walls, secure pictures, and distribute earthquake preparedness information.

The Consequences of Failing to Incorporate Sustainability

The consequences of not incorporating sustainability in disaster recovery will almost surely include an increase in social inequity—higher death and injury rates for vulnerable groups as well as damage to property and loss of possessions. It may mean that injuries result in permanent

disabilities. It certainly means rebuilding—again and again and again. Permitting non-sustainable housing results in sustained economic and household loss; conversely, building unaffordable housing as a way to increase safety standards results in reduced diversity within a community (Habitat for Humanity provides excellent exceptions).

Using Recovery to Promote Equity . . .

toward Children

- Create child care programs close to recovery meetings so that parents can stay involved in recovery efforts and stay close to their children.
- Organize teen groups to work on construction, clean-up, mitigation and recovery projects, and in discussion groups.
- Put in place counseling programs to work through children’s disaster-related trauma for several years after the disaster.
- When rebuilding places where children are isolated with mothers—low-income housing, neighborhood buildings, playgrounds and parks, child care centers—design with their special needs in mind.

toward the Elderly

- Link families and their elderly members to recovery services.
- Incorporate the wisdom of the elderly into programs and services for long-term recovery.
- Involve the elderly and their service organizations in preparedness and mitigation activities like putting up shutters before the rainy or hurricane season. Become involved in the Spring Break Initiative (see end of chapter).
- Make sure temporary housing provides support systems.
- Help replace lost possessions, ranging from medicine to a special plant, shrub, or tree (an excellent project for school children).
- Replace damaged or destroyed housing with appropriate, affordable housing.

toward Women

- Create programs to increase women’s skills and opportunities, including participation in hazard and vulnerability analysis, information dissemination, and recovery planning.
- Train emergency managers in women’s issues—invite caseworkers in low-income issues, violence against women—to address regular staff meetings.
- Place qualified female staff in key positions throughout the recovery effort, especially women who represent marginalized groups.
- Involve women in reestablishment of community health services.
- Allocate resources fairly to children, pregnant women.
- Involve women in housing, economic and physical infrastructure decisionmaking.
- Organize programs for post disaster psychological needs, including children and the elderly.
- Help women’s groups in mobilizing women for emergency management activities and recovery organizations.

MONITORING SOCIAL AND INTERGENERATIONAL EQUITY

Social indicators of sustainability in general—and especially those for disaster recovery and vulnerability to risks—are a challenging topic. Many economic indicators (number of people employed, for example) are recognized as measures of economic progress, yet little consensus exists on social indicators. What is more, each community has a unique set of circumstances that should be taken into consideration when measuring sustainability. Finally, many indicators of social and intergenerational equity are interconnected.

Indicators reflect what and who communities value and direct officials on how to engage in actions, programming, and initiatives that promote intergenerational equity. One useful web site, www.sustainablemeasures.com, notes that “effective indicators are relevant, easy to understand, reliable, and based on accessible data.” Indicators must be interconnected and tied to long-term community development that is equitable in disaster and non-disaster contexts.

Probably what works best in identifying indicators is to generate discussion around several key principles. Truly sustainable actions would ensure that all groups within a community experience recovery at similar rates and with comparable resources. In reality, though, many groups often feel left out or as if they have fallen through the cracks of recovery efforts.

Generating indicators must begin by having all the stakeholder groups at the table where indicators are discussed, critiqued, and finalized. The table should be filled with representative members of all facets of the community. In short, the first indicator of a holistic recovery that promotes social and intergenerational equity is, “who is participating?”

Some additional suggestions for indicators of social and intergenerational equity are given below. In reality, tracking and verifying some of this information will likely be problematic.

Indicators of Social and Intergenerational Equity after a Disaster

- **Equity in housing**—One indicator of equity in post-disaster housing might track the demographic characteristics of people who lived in the pre-disaster neighborhood and where they moved to afterwards. In Arkadelphia, for example, an unknown number of Hispanic residents apparently left the city for county residences. In Santa Cruz, some downtown-dwelling low-income elderly had no choice but to leave the community to live in cheaper housing or with family members. Most frequently, such data are available from housing offices and religious groups rendering aid.
- **Equity in housing**—Another indicator is the size of post-disaster housing. After the Oklahoma tornadoes, the square footage of houses appeared to drop in some areas. Likewise, some families felt compelled to opt for mobile homes or manufactured housing after losing their traditional homes due to insufficient funds.
- **Equity in overall recovery**—A measure of overall equity could be information on what sorts of people leave the area permanently after a disaster.

The Maine Economic Growth Foundation (www.mdf.org) suggests several important indicators relevant to general community sustainability that can and should be considered to promote equity after disaster. In a post-disaster situation, these benchmarks should, at the very least, not decline.

- Benchmark:** The ratio of the average annual income of the wealthiest 20% of families to the average annual income of the poorest 20% of families will decrease each year until at least 2000.
- Benchmark:** The income per capita of minorities will improve from 69% of per capita income of whites in 1990 to 77% by 2000 and eventually to 100%.
- Benchmark:** Among Maine residents with disabilities, the percentage employed will improve from 86% in 1990 to 90% by 2000, and eventually to the same employment rate as the population as a whole.
- Benchmark:** The percentage of Maine residents who believe that their employers maintain an equal opportunity environment will improve from 84% in 1995 to 90% by 2000 and eventually to 100%.
- Benchmark:** The percentage of jobs that pay a livable wage will improve from 65% in 1995 to 85% by 2005.

- **Equity of risk**—How many low-income homes were moved out of floodplains? How was that housing stock replaced? Where did the families go?
- **Equity in deaths, injuries, damage**—The social impact must include indicators that track reduction of deaths, injuries, and property loss. Are they the same across groups? A positive indicator would show that, post-disaster, there were no significant differences in deaths and injuries between different-income neighborhoods, between races, between men and women, elderly and middle-aged, and so on.
- **Equity in disaster preparedness**—Indicators should also examine preparedness within and across organizations and agencies that work with vulnerable populations. To what extent do area agencies on aging have and use disaster plans? Are nursing homes prepared for everything from tornado to flash flood? Is the local housing project able to board up windows? Does a local church, mosque, or synagogue know how to manage mass feedings, unsolicited donations, and long-term education of its membership?
- **Equity in outreach**—Indicators could track the degree of outreach (increasing it every year) and its effectiveness in reaching different populations (have stakeholders assess outreach materials).
- **Equity in economics**—An indicator of economic equity could be numbers and groups of people who lost their jobs, temporarily or permanently. Which types of businesses were damaged and what was the local impact on jobs? What happened to household income level across race, ethnicity, gender, age?

- **Equity in infrastructure**—Are all areas of the community repaired and replaced at comparable levels and times?
- **Gender equity**—Another indicator of social equity might be the incidence of domestic violence during and after recovery.

REFERENCES

- 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.
- Bolin, Robert and Lois Stanford. "Constructing Vulnerability in the First World: the Northridge Earthquake in Southern California, 1994." In Oliver-Smith, Anthony and Hoffman, Susanna M., eds. *The Angry Earth*. New York: Routledge: 89-112.
- Boyce, James K. 2000. "Let Them Eat Risk? Wealth, Rights and Disaster Vulnerability." *Disasters* 24(3):254-261.
- Buckle, Philip, et al. 2000. "New Approaches to Assessing Vulnerability and Resilience." *Australian Journal of Emergency Management* 15(2):8-14.
- Cuny, Fred. 1983. *Disasters and Development*. Oxford: Oxford University Press.
- Cutter, Susan L. 1995. "The Forgotten Casualties: Women, Children and Environmental Change." *Global Environmental Change* 5(1):181-194.
- Enarson, Elaine. 1999. "Violence Against Women in Disasters." *Violence against Women* 5(7): 742-768.
- Henderson, H. 1996. *Building a Win-win World: Life Beyond Global Economic Warfare*. San Francisco: Berrett-Koehler Publishers.
- Mileti, Dennis. 1999. *Disasters by Design: A Reassessment of Natural Hazards in the United States*. Washington, D.C.: Joseph Henry Press. Available at books.nap.edu/catalog/5782.html. [accessed September 21, 2001]
- Roseland, Mark. 1998. *Toward Sustainable Communities: Resources for Citizens and Their Governments*. Stony Creek, CT: New Society Publishers.

WHERE TO FIND MORE INFORMATION

Training Courses and Workshops

Federal Emergency Management Agency, Emergency Management Institute, Higher Education Project Courses. Emmitsburg, Maryland. www.fema.gov/emi/edu/aem_courses.htm Phone: (301) 447-1233 or email Barbara Johnson: barbara.l.johnson@fema.gov [accessed June 15, 2001]

- "Social Dimensions of Disaster."
- "Sociology of Disaster."

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

- “FEMA Program Responsibilities: Coordinating Environmental and Historical Compliance. Federal Emergency Management Agency Course G253.
This 3-day course is an introduction to environmental and historic compliance. It examines the importance of fully integrating the compliance steps stipulated by the National Environmental Policy Act and the National Historic Preservation Act into the administration of the Public Assistance and Hazard Mitigation Grant Programs. This course is directed to those at environmental/historic entry levels, and others whose primary function is not environmental/historic.

Organizations

Disaster Child Care, Adventist Community Services

The Adventists and the Church of the Brethren have developed model programs for child care and donations management.

See www.nvoad.org/acs.htm [accessed August 3, 2001]

American Red Cross

Among the topics covered are “Dealing with the Elderly and Disasters” and “Masters of Disasters Curriculum for Children.”

See www.redcross.org [accessed August 3, 2001]

Center for Health, Environment and Justice

See www.chej.org [accessed August 3, 2001]

Center for Third World Organizing

See www.ctwo.org [accessed August 3, 2001]

Environmental Justice Resource Center, Clark Atlanta University

See www.ejrc.cau.edu [accessed August 3, 2001]

Federal Emergency Management Agency

“FEMA for Kids” has excellent resources in English and Spanish, with stories for all children, including Native Americans.

See www.fema.gov/kids/ [accessed August 3, 2001]

Gender and Disaster Network

Use this network to find experts on women’s issues around the world.

See www.anglia.ac.uk/geography/gdn [accessed August 3, 2001]

Highlander Education and Research Center (HREC)

HREC specializes in participatory education and action research and involving stakeholders.

See www.hrec.org [accessed August 3, 2001]

League of United Latin American Citizens

Mountain Association for Community Economic development, 433 Chestnut Street, Berea, KY 40403; (606) 986-2373; fax 606-986-1299; email info@maced.org

See www.lulac.org [accessed August 3, 2001]

Mennonite Disaster Services

The Mennonites will appear quietly in a community, assist the low-income, elderly and/or persons with disabilities with post-disaster cleanup and building repair, and then quietly leave.

See www.nvoad.org/mds.htm

Mid-Florida Area Agency on Aging Emergency Preparedness.

www.mfaaa.org/emergency/plan/disaster/1.html [accessed August 3, 2001]

National Association for the Advancement of Colored People

See www.naacp.org [accessed August 3, 2001]

National Voluntary Organizations Active in Disaster.

At www.nvoad.org/aboutnv.htm, you will find a network of voluntary organizations, many of them faith-based.

Pacific Institute. "Environmental Justice Resources on the Internet."

This page has extensive lists of resources at the local, national, and international level, including institutional sites, reports, and relevant legal texts.

See www.pacinst.org/ej.html [accessed August 3, 2001]

Prepare Now

This site is an excellent source for information on vulnerable populations and disasters.

See www.preparenow.org [accessed August 3, 2001]

Sustainable Measures.

See www.sustainablemeasures.com [accessed August 3, 2001]

United Nations Development Programme, Gender in Development

See www.undp.org/gender/ [accessed August 3, 2001]

United Farm Workers of America, AFL-CIO

Use this site for connections and networks to local migrant and stationary farm workers and organizations.

See www.ufw.org [accessed August 3, 2001]

Videos, CD-ROMs, and DVDs

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

This is a well-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.

The Unexpected Catastrophe: 1989 Newcastle Earthquake Information Resources. Newcastle, Australia: Newcastle Regional Library. 1999.

The Newcastle Earthquake Database is a multimedia CD-ROM database that contains a record of the events of, the response to, and the renewal since the 1989 Newcastle earthquake. Subjects covered in the database include: disaster management, earthquake engineering, economic impact, geological issues, health issues, heritage issues, insurance, lifeline services, psychological impact, recovery and renewal, seismology, and social and welfare services.

Books, Articles, and Papers

California Environmental Protection Agency. 1994. *Toward the 21st Century: Planning for the Protection of California’s Environment.* Sacramento, CA: California Environmental Protection Agency, California Comparative Risk Project, 642 pp.

California’s unique blend of population density, government, economy, natural resources, beauty, industry, agriculture, and recreational potential, combined with its size, diversity, and social awareness makes the job of protecting public health and the environment particularly challenging. To help identify environmental priorities for the future, the California Comparative

Risk Project was charged with identifying environmental threats of the greatest ecological, human health, and societal concern using the risk-ranking model. This report presents the findings of committees dealing with human health, ecological health, social welfare, environmental justice, education, and economic perspectives. Also in the document are an extensive summary report, an interagency management cooperative case study review, and four appendices which present summary sheets for human health, ecological health, social welfare, and education.

California Governor's Office of Emergency Services. 2000. *Meeting the Needs of Vulnerable People in Times of Disaster: A Guide for Emergency Managers*. Sacramento, CA: California Governor's Office of Emergency Services. 62 pp.

This handbook is a useful guide to the special situations faced by marginalized groups in the wake of hazardous events. Its premise is that a cooperative relationship between government and community-based organizations provides the best assurance that the needs of under-served people and the needs of the community for long-term recovery will be fully addressed. It then proceeds to outline steps for building that relationship, outlining the capabilities, strengths, and weaknesses of both community-based organizations and governments in handling a variety of situations. Extensive appendixes give sample memoranda of understanding, lists of community-based organizations, tips for getting started on a comprehensive approach, and sources of more information.

Federal Emergency Management Agency. n.d. *Safeguarding Your Historic Site: Basic Preparedness and Recovery Measures for Natural Disasters*. Boston, MA: FEMA 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.

Jones, Barclay G. 1986. *Protecting Historic Architecture and Museum Collections from Natural Disasters*. Stoneham, MA: Butterworths Publishers. 576 pp.

This handbook is a guide for professionals engaged in the preservation of valuable objects or structures. The book contains 27 papers, scores of illustrations and photographs, and an extensive list of useful references. The papers are grouped into six categories: a general overview of cultural loss caused by earthquakes and other natural disasters; a summary of policy issues for those involved with disaster preparedness; an assessment of hazards and structural vulnerability to them; a description of preventive measures to mitigate losses; listings of emergency and rescue measures for structures and artifacts; and discussions of public and private response measures.

Merritt, John F. 1990. *History at Risk: Loma Prieta—Seismic Safety and Historic Buildings*. Oakland, CA: California Preservation Foundation. 100 pp.

This book was written to serve two functions: to tell others in California what the California Preservation Foundation learned in the aftermath of the Loma Prieta earthquake and to help local officials and state agencies reassess seismic mitigation policies and programs that directly affect the conservation of historic buildings. The book discusses the need to survey buildings at risk, the human and financial resources available to mitigate future losses, and the policies and laws in California that affect preservation before and after a disaster. It then describes how to develop a program to reduce future earthquake risks and lists the financial resources that will be available when an earthquake strikes. The document concludes with recommendations for changes in state policy that will support the preservation and protection of historic buildings from earthquakes. Appendices contain a study that compares different damage assessments of the same building in Santa Cruz, and reprinted ordinances from the town of Los Gatos dealing with the repair, restoration, and reconstruction of buildings damaged during the Loma Prieta quake.

Morris, Marya. 1992. *Innovative Tools for Historic Preservation*. Chicago, IL: American Planning Association Planning Advisory Service. 40 pp.

This report describes the results of a survey of more than 300 planning directors and preservationists to identify innovative techniques that offer the greatest protection to historic resources. It shows how communities have used non-traditional techniques such as conservation districts, down-zoning, and tax and financial incentives to meet historic preservation objectives. The report includes case studies to illustrate each technique.

Nanita-Kennett, Milagros. 1994. *Urban Redevelopment and Earthquake Safety*. Tallahassee, FL: Florida A&M University, School of Architecture. 143 pp.

Urban renewal or redevelopment has been employed by federal, state, and local governments to promote the creation of public infrastructure and regulate the development process. However, earthquake safety programs have never been a part of this process, despite evidence that many cities are broadly vulnerable to the hazard. If these programs could be successfully integrated, seismic safety and protection could be greatly increased with reasonable effort and cost. The author examines this topic by addressing urban decay and earthquake risk; the redevelopment process; the urban environment, including building codes, land use, and infrastructure; federal earthquake programs; local government programs; and the integration of various aspects of redevelopment. She provides case studies of Charleston, South Carolina; Memphis, Tennessee; Salt Lake City, Utah; and Santa Rosa and Santa Cruz, California.

Nelson, Carl L. 1991. *Protecting the Past from Natural Disasters*. Washington, D.C.: The Preservation Press, National Trust for Historic Preservation. 192 pp.

This book issues a clear call to cultural preservation professionals, planners, and emergency management personnel to begin preparations for protecting America's cultural heritage from natural disasters. Following a photo essay on historic buildings damaged by Hurricane Hugo and the Loma Prieta earthquake, the manual lists lessons learned from both of these disasters, describes the types of damage caused by various disaster agents, and offers advice about how to plan protective measures for historic properties. Emergency postdisaster activities also are described, including stabilization of structures, artifact restoration, damage assessment, restoration standards, security, and other recovery and reconstruction actions. Legal precautions,

landscape restoration, and insurance needs are a few of the topics about which information is presented. Numerous checklists, bibliographic references, and an extensive list of resource groups complete the volume.

O'Brien, Matthew Kendall. 1993. *A Survey of Damage to Historic Buildings and an Evaluation of Disaster Response Procedures Following the Cape Mendocino Earthquakes of April 1992*. Disasters and Cultural Property series. Ithaca, NY: Cornell University, Institute for Social and Economic Research, Program in Urban and Regional Studies. 198 pp.

This case study investigates the impact on historic structures of the Cape Mendocino, California, earthquakes of April 1992 and how the disaster recovery process that followed affected historic architecture in the area. The estimated damage rate attributed to the earthquakes (1.5 to 2.5% of the building stock) is not only high compared to other recent earthquakes but also demonstrates the susceptibility of older construction to seismic damage. Separate chapters deal with seismic retrofitting for historic residential buildings; the disaster recovery process in Humboldt County; the role of federal agencies in disaster response and the role of the State of California in disaster response. Topics addressed in the thesis include preservation legislation, California's policy toward historic properties, and the role of the insurance industry in encouraging the preservation of older residential structures.

Phillips, Brenda D. and Mindy Ephraim. 1992. *Living in the Aftermath: Blaming Processes in the Loma Prieta Earthquake*. Working Paper No. 80. Boulder, CO: Natural Hazards Research and Applications Information Center. 15 pp.

This report examines group behavior and attitudes in the aftermath of the 1989 Loma Prieta earthquake. Following the quake, widespread and diverse sheltering needs arose because of the mixed Bay Area population. The groups involved included non-English speakers, physically and mentally disabled individuals, "pre-quake" homeless, and others. Long accustomed to responding to sheltering, the American Red Cross stepped in to help; yet in some locales, complaints were lodged against Red Cross sheltering efforts (or lack thereof) as well as against local government efforts. Shelter problems in Watsonville, California, received heavy media attention when allegations of cultural insensitivity and discrimination against the community's large Latino population arose. This paper examines the evolution of these problems and offers suggestions for avoiding such difficulties in the future.

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.

Simile, Catherine M. 1995. *Disaster Settings and Mobilization for Contentious Collective Action: Case Studies of Hurricane Hugo and the Loma Prieta Earthquake*. Newark, DE: University of Delaware, Disaster Research Center. 238 pp.

In 1989 two large-scale natural disasters affected two communities in the U.S. Hurricane Hugo affected the Sea Islands of South Carolina and the Loma Prieta earthquake, Watsonville, California. In both cases, pre-existing social organizations mobilized their resources to address disaster impacts experienced by marginalized populations, specifically, damage to housing. In the Sea Islands of South Carolina, white church groups addressed the housing problems of the rural black poor as ones of misfortune and provided charity to those people. In Watsonville, on the other hand, Latinos mounted contentious collective campaigns against what they claimed to be unjust actions on the part of the local white power structure. The differences in the actions undertaken by the two groups can be explained by the differential access each had to the features necessary for contentious collective action: political opportunity, resources, pre-existing social organization, and frames of injustice. The study concludes that, although disaster settings heighten the potential for contentious collective action, only groups who engaged in such behavior in pre-disaster settings are likely to engage in such action in post-disaster settings.

Thiel, Charles C., Jr., E. Leroy Tolles, Edna E. Kimbro, Fredrick A. Webster, and William S. Ginell. *Guidelines for Seismic Strengthening of Adobe Project—Report of first year activities*. Getty Conservation Institute. 250 pp.

The Getty Conservation Institute's interest in the areas of seismic damage mitigation studies and the stabilization of deteriorating adobe structures led to the establishment in November 1990 of the Guidelines for Seismic Strengthening of Adobe Project (GSAP). The goal of GSAP was to develop technical procedures for improving the seismic performance of existing monumental adobe structures consistent with maintaining architectural, historic, and cultural conservation values. California's seismic vulnerability is particularly hazardous to the state's Spanish Colonial adobe architectural heritage, which includes missions, presidios, and residences. Also included in the report is a glossary of Spanish Colonial architectural terminology, 451 general references plus chapter references, and a census of historic adobe buildings in California. The report is generously supplied with floor-plans, detail drawings, and photographs.

Tolles, E. Leroy, Edna E. Kimbro, Charles C. Thiel, Frederick A. Webster, and William S. Ginell. 1993. *Guidelines for the Seismic Retrofitting of Adobe Project—report of second year activities*. Getty Conservation Institute. 166 pp.

This second report of the Guidelines for Seismic Strengthening of Adobe Project activities offers: 1) a planning guide that provides information and advice about seismic cultural preservation goals, objectives, conservation principles, essential information required, and practical application of the information; and 2) a description of a seismic testing program, which contains information about test procedures, material and wall tests, and the results of the testing program on building models. Other features of the report include sources of information and assistance available from agencies and non-profit organizations, and a reprint of "Working with Architects and Other Consultants," a chapter appearing in the Historic Property Owner's Handbook (1977), which was prepared for the National Trust for Historic Preservation.

U.S. National Task Force on Emergency Response. 1997. *Emergency Response and Salvage Wheel*. Washington, D.C.: National Task Force on Emergency Response. 4 pp.

Much of America's cultural heritage is in the care of museums, libraries, art institutions, and other organizations, and protecting these valuable resources can be difficult under the best of conditions. In a disaster, collections that have been carefully built over many years can be damaged, endangering national treasures. The National Task Force on Emergency Response recently created a useful tool to guide caretakers in protecting and salvaging their collections—the Emergency Response and Salvage Wheel—which outlines steps to take in preparing for, responding to, and recovering from disasters. It discusses creating disaster plans, working with emergency management agencies in the community, and obtaining assistance from national conservation organizations. The wheel also provides information on responding to a disaster warning; taking protective action during a disaster; initiating recovery activities away from the site; stabilizing a building and its environment; handling documentation; retrieving and protecting artifacts; assessing damage; prioritizing salvage activities; revitalizing historic buildings; and restoring photographs, books and papers, electronic records, textiles, furniture, ceramic, stone, metal organic materials, natural history specimens, and framed artwork.

U.S. National Trust for Historic Preservation. 1990. *An Assessment of Damage Caused to Historic Resources by the Loma Prieta Earthquake*. Publication No. NT-RS-10570-90. Washington, D.C.: National Trust for Historic Preservation. 114 pp.

This report assesses the damage and impacts to historic buildings caused by the Loma Prieta quake, analyzes the financial needs and funding available for restoring the buildings, and recommends actions to be taken by both federal and state governments. At the federal level, the report recommends that legislative procedures should be instituted immediately to retrofit historic buildings. The California State Office of Historic Preservation performed very well in dealing with the quake's aftermath. Small scale methods for seismically upgrading buildings are known; what is needed is implementation, not necessarily more research. The report offers numerous suggestions, recommends implementation strategies, lists many California resources, and outlines state legislation aimed at retrofitting historical structures.

U.S. National Trust for Historic Preservation. 1993. *Treatment of Flood-Damaged Older and Historic Buildings*. Washington, D.C.: National Trust for Historic Preservation (NTHP). 12 pp.

Prompted by the massive flooding in the Midwest, the NTHP has prepared an informative booklet to assist building owners in minimizing structural and cosmetic damage caused by riverine flood waters. Construction detail drawings and checklists provide guidelines for dealing with problems caused by hydrostatic pressure (basement slab heaving, foundation collapse, loss of mortar); erosion (foundation erosion, soil erosion, sidewalk and slab heaving); saturated insulation; wood rot; masonry and concrete (soluble salt damage, freezing and thawing damage); exposed and imbedded metals; exterior paint; and interior finishes (drywall, wood floors and trim, paint, wallpaper, and floor coverings). The publication also suggests safety precautions for workers to take during the restoration process. In addition to providing advice on specific restoration details, these offices administer the historic rehabilitation tax credit program for owners of income-producing properties certified as historic rehabilitation projects.

Additional Reading

- Bailey, Conner, Kelly D. Alley, Charles E. Faupel, and Cathy Solheim. 1993. *Environmental Justice and the Professional*. HRRC Publication No.125A. College Station, TX: Texas A&M University, College of Architecture, Hazard Reduction & Recovery Center. 10 pp.
- Bailey, Conner, Charles E. Faupel, and Kelly D. Alley. 1994. *Environmental Justice: Mobilization of a Grassroots Social Movement*. HRRC Publication 126A. College Station, TX: Texas A&M University, College of Architecture, Hazard Reduction & Recovery Center. 21 pp.
- Berke, Philip R., Jack D. Kartz, and Dennis E. Wenger. 1993. "Recovery after Disaster: Achieving Sustainable Development, Mitigation and Equity." *Disasters* 17(2):93-109.
- Bolin, Robert and Lois Stanford. "Constructing Vulnerability in the First World: the Northridge Earthquake in Southern California, 1994." In Oliver-Smith, Anthony and Hoffman, Susanna M., eds. *The Angry Earth*. New York: Routledge: 89-112.
- Boyce, James K. 2000. "Let Them Eat Risk? Wealth, Rights and Disaster Vulnerability." *Disasters* 24(3):254-261.
- Cuny, Fred. 1983. *Disasters and Development*. Oxford: Oxford University Press.
- Cutter, Susan L. 1995. "The Forgotten Casualties: Women, Children and Environmental Change." *Global Environmental Change* 5(1):181-194.
- Enarson, Elaine. 1999. "Violence Against Women in Disasters." *Violence against Women* 5(7): 742-768.
- Fothergill, Alice, Enrique G.M. Maestas, and JoAnne Darlington DeRouen. 1999. "Race, Ethnicity and Disasters in the United States: a Review of the Literature." *Disasters* 23(2):156-173.
- Harker, Donald F. and Elizabeth Ungar Natter. 1995. *Where We Live: A Citizen's Guide to Conducting a Community Environmental Inventory*. Covelo, CA: Island Press. 319 pp.
- 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.
- Martin, Christopher T. 1995. "Historic Resources Compliance and Mitigation in Missouri's Floodplains." Pp. 169-173 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.

- McDonnell, Sharon et al. 1995. "Evaluation of Long-term Community Recovery from Hurricane Andrew: Sources of Assistance Received by Population Sub-groups." *Disasters* 19(4): 338-347.
- Morrow, Betty Hearn and Elaine Enarson. 1996. "Hurricane Andrew Through Women's Eyes: Issues and Recommendations." *International Journal of Mass Emergencies and Disasters* 14(1): 5-22.
- Phillips, Brenda D. 2000 "Environmental Hazards, Sustainability and Social Justice: Making a Difference." In Dunn, Dana and Waller, David V., eds. *Analyzing Social Problems: essays and exercises*, second edition. Upper Saddle River, NJ: Prentice Hall.
- Rogers, George O. 1995. *Environmental Racism or Inequity: Comparative Study of Four Ethnic Groups*. HRRC Publication 131A. College Station, TX: University of Texas, College of Architecture, Hazard Reduction & Recovery Center. 18 pp.
- Roseland, Mark. 1998. *Toward Sustainable Communities: Resources for Citizens and Their Governments*. Stony Creek, CT: New Society Publishers.
- Weaver, James H., Michael T. Rock, and Kenneth Kusterer. 1997. *Achieving Broad-Based Sustainable Development: Governance, Environment, and Growth with Equity*. West Hartford, CT: Kumarian Press.