MISCELLANEOUS REPORT #44

DISASTER RECOVERY: COMMENTS ON THE LITERATURE AND A MOSTLY ANNOTATED BIBLIOGRAPHY*

E. L. Quarantelli
Disaster Research Center
University of Delaware

1989

I would like to make two general observations before talking specifically about the research literature on recovery from disasters. First, it is necessary to set recovery in a larger context—recovering from disasters did not start with disaster studies. There is an implication in such an observation about what might be the better kind of disaster recovery planning which might be attempted. Second, there are some serious conceptual problems with the concept of disaster recovery. Most have to do with the probability that when we talk of recovery we are using perhaps too broad a term.

Let me say a few words about the first point.

It is important to set any comments on recovery into a larger context. The larger context is the history of the human race. Disasters are not new phenomena. But more important, recovery from them are also not new. In fact, there is almost always recovery from disasters.

To be sure a society or civilization here and there has been destroyed by disasters, such as the civilization that one time existed on the island of Crete. There have also been Indian tribes in both North and South America that were apparently destroyed by disasters. But these have been the very minor exceptions.

There are of course more frequent disappearances as one moves down the social scale. Communities have been totally destroyed. Pompeii is perhaps the best example of such an instance, but it is not the only one.

Organizations and groups too have not survived disasters. And of course families and individuals are not infrequently totally destroyed by disasters. Casualty totals do indicate that some persons do not recover.

However, it is not necessary to do any great studies to observe that the overwhelming majority of social units involved do survive disasters. There is nothing odd about recovering from disasters. It is what usually happens.

A lesson from this observation is that in coping, adapting to disasters, the recovering units must have done something right. They did recover from whatever disaster struck them.

Does this mean that planning for recovering from disasters is unnecessary since it seem to occur naturally? No, because presumably things can always be done better.

Furthermore, there might be another lesson here. It might be that recovery planning that is consistent with natural, spontaneous human and group efforts to cope with disasters might be the best planning. That would also be in line with what disaster researchers already know about disaster planning generally—the best is that which is in line with what occurs naturally.

That is the larger context I wanted to mention.
Now, to turn to my second point.

What is meant by recovery from disaster? Actually the phenomena has not been well conceptualized. In fact, there is not even much agreement on the term, word or label to use. Thus, recovery, reconstruction, restoration, among other words or labels which are used, do not quite seem to be always pointing to the same thing. Those that use reconstruction seem to stress the physical aspects of a postdisaster situation, but for social scientists that probably is not the important dimension to consider. Restoration appears to be a statement about going back to previous patterns, which however most would think should be a matter of empirical determination, not of definition. The term recovery often seems to imply that everything worked out fine after the disaster, but this too should be a matter of research and not of definition.

Dynes, in his earlier remarks, noted that disasters should be thought of as social phenomena of some kind, not physical happenings. This should be kept in mind also when thinking of disaster recovery. He also noted that different types of disasters lead to different problems which in turn should lead to different kinds of research questions. In a cyclone, where forewarning is possible, it is possible to get goods and farm animals out of the way of danger, but this would not be true of an earthquake which has no forewarning period; obviously this has consequences for disaster recovery. Finally, he noted that disasters should always be seen in the larger social context (e.g. studies of the earlier Nicaraguan earthquake and the more recent hurricane which ignored that the disaster recovery occurred within two particular kinds of dictatorial social structures in that society, are perhaps missing the most important element in the total situation).

Now, what does the research literature indicate about recovery? If a disaster happens, a flood in southern Thailand, a landslide in Nepal, a toxic chemical episode in India, a cyclone in Bangladesh, what is likely to be the recovery pattern? Some of what occurs has already been studied. Thus, some of the more relevant research questions have already been asked. It is not necessary to reinvent the wheel again. It is possible to state some of the questions that could be asked, some of the more relevant research topics that might be examined.

However, it is also necessary to observe that from a conceptual viewpoint, that disaster recovery is not neatly separable from either disaster response or disaster mitigation (particularly if one visualizes the four major disaster phases as being in a circle rather than in a linear sequence). The duration or time length of recovery is not self evident, nor where it shades off from response or mitigation planning activities.

Also, recovery is uneven by sectors, or at least it could be. In the "same" disaster, farm lands which have been polluted may not be usable for raising crops for two years, whereas it might be possible to restore a bus system to transport workers to their work places within two days. The
time period for recovering would be markedly different for the two recovery activities.

There are also some problems with trying to observe disaster recovery effects. The further away from the time of impact, the more difficult it is to see the influence of the disaster in the longer time period. After all, existing trends do not stop as a result of the disaster, and after a while it is not easy to tell if what is observed is a consequence of the disaster impact or simply of longer run community trends. Methodologically, there are some complicated problems to solve in studying longer run recovery aspects from disaster impacts, so that they can be separated from continuation of preimpact disaster trends.

Finally, the literature on disaster recovery is very uneven in terms of the social units studied. As can be noted in Drabek's book (p. 17), the higher the social level, the fewer the studies. We have fewer cues about what to study at the higher social levels.

Leaving all these matters aside for the moment, let me illustrate what the research literature suggests about disaster recovery. I will use several examples from different levels rather than trying to summarize a rather substantial body of research, much of which is discussed in the Drabek book.

What can we say at the individual level?

Survivors of disasters will never forget the experience of a major disaster. It will be forever embedded in their memory. It is not something easy to forget.

However, at the same time, people seem to learn very little from the experience in the sense of planning for future similar disasters. They seldom learn what organizations may have planned for future disasters. Put another way, the experience of a disaster by an individual does not appear to be much of a learning experience (except in some cases in persons becoming more sensitive to certain kinds of weather cues).

Likewise, the literature does not suggest much by way of general long run health or mental health consequences. On the whole, there is little indication that most disaster victims are weakened or made more vulnerable in the future to physical health problems. Similarly, although this is a more contentious point in the research literature, most disaster researchers have failed to find significant longer run negative mental health or bad psychological consequences for individuals who undergo a disaster. There is as much evidence that some persons are actually better off psychologically in the post impact period as a result of the experience of undergoing a disaster as there is that some other persons are worst off. Disasters should not be thought of as automatically bad in their results; it is an empirical matter regarding the degree to which consequences are positive and negative as well as inconsequential.
The major qualification on this general statement is that certain category of persons may exhibit some dysfunctional psychological effects as a result of undergoing the extreme stress of a major community disaster. This is frequently stated to be true of children and the elderly, but the research evidence that the former are importantly affected is at best very limited, and for the latter actually the opposite results to the expected is suggested by some studies. However, long run negative psychological consequences do appear to be a strong probability under certain circumstances for first responders—that is, police, fire, and medical personnel who are first on a disaster site and who have to handle very many and badly disfigured dead bodies, for instance. There is an irony in that perhaps the first helpers on the scene may suffer more from a mental health viewpoint than direct disaster victims and survivors. (Actually the key variable in all this may be the perception of very traumatic scenes such as the witnessing of dismembered bodies of children or the slow and torturous dying of loved ones who the perceiver can not help in any way).

At the family level, the research evidence also shows a mixed picture with respect to recovery. Some families are better off after a disaster, some are worst off, most do not appear to be significantly affected one way or another. In certain post impact circumstances, family members become closer and are drawn together more tightly than they were before the disaster. At times, families do disintegrate or have many post impact problems; some research evidence implies these are probably those social entities that were already vulnerable to further stress before the disaster occurred.

Again, there are some factors that may cut across the general picture just indicated. Relocation of families can very often be more stressful and disruptive than the direct impact of a disaster. If long run sheltering and housing is not handled well, even families that successfully cope with the immediate emergency period of a disaster may slowly develop problems in the long run.

In this connection, there are major differences between emergency sheltering, emergency housing, temporary housing and permanent housing activities. Families which cope well with one of the phases do not necessarily adapt well to other phases. While most of the sources of the problems regarding this matter stem from the activities of formal organizations, those that suffer most will often be the family units that are caught up in the process.

At the organizational level, there are again some common themes in the research literature on disaster recovery. There is frequently a clash between helping organizations from outside the local area and community groups. The outsiders may be more professional and have more resources than local groups, but it is almost inevitable that they will be seen at some point as trying to take over what the victims consider as "their" disaster. Good intent or motivation is no substitute for sensitivity to local views of the experience they have undergone.
Just as in the case of individuals, most organizations do not seem to learn too much from the experience of a disaster. Usually right after impact and in the emergency response period, there is much talk about how the group ought to be changed to better cope with future disasters. This talk seldom gets translated into action. However, there are exceptions; in rare but actual cases much organizational learning from the disaster experience can occur resulting in marked organizational changes in structures and functions in the recovery period of disasters. In one sense, this time period does sometime provide a window of opportunity for major organizational change.

Similarly, at the community level, the research evidence indicates a very mixed picture as to any longer run change that can be attributed to the impact of a disaster. The great majority of communities in recovering from a disaster turn out to be rather similar to what they were before the disastrous occasion. But it is also possible to find instances where the community is revitalized and progresses in ways that were not inherent in the predisaster existing trends.

However, the research evidence is fairly clear on one other community level consequence of recovering from a disaster. A degree of community conflict is almost inevitable. In part this stems from a resurgence of existing community disagreements that are usually set aside during the emergency time period of disasters. But in addition, there is the conflict that is engendered by the differences that often arise in how to allocate the resources that become available to recover from the disaster. Some will want to rebuild a town in a physically different way, encourage the development of new industries or businesses, or change land use or residential patterns. Other groups in the locality will want to continue with whatever were the traditional patterns in the area. This kind of conflict can become very bitter and divisive especially if, as is often the case, the informal power structure of a community is divided over the recovery path to follow.

At the societal level, we have to note that with respect to recovery, there is an important differentiating element in whether what occurs is a disaster or a catastrophe. The distinction here is between an occasion that may disrupt one community or even a region, but where the negative consequences are lost in the context of the larger society. Almost all disasters in the United States, for example, have no national level consequences. This is a rather different situation where a catastrophic occasion in some developing country may reduce the gross national product several percentage points, or in the case of some island nations, affect the majority of agricultural production or residential housing. Recovering from such a situation is a rather different matter than what will be involved in the ordinary disaster. (There are also some clear implications for this with respect to linking disaster recovery planning and developmental planning).

It could also be argued that a major disaster and certainly a catastrophe might have overall positive consequences depending on what occurs in the recovery process. For example, there could be conditions favorable to
change: a demonstration that old societal patterns did not work in the extreme situation, the appearance of emergent groups that worked better than established groups, the presentation of different role models and ideals brought in by outside helpers (individual or organizations), and certain differential effects of the disaster (e.g., polluted land or ecologically disrupted fishing areas forcing certain workers out of their traditional occupations). While these may seem viable hypotheses, there is almost no research evidence one way or another on such matters which might be at the heart of the recovery process.

My remarks have been very selective. Nevertheless, in part I have tried to indicate that a partial research agenda can be drawn from what we already know about the recovery process (or for that matter what we do not know as in the last example I gave of possible societal change). We do not need to start as if no one ever has thought about any of these matters at all.

In conclusion, I will note that I have handed out a mostly annotated bibliography on the research literature that covers the topic of disaster recovery. The list is not all inclusive but does contain the majority of the major and better known English language work in the area. The listing again illustrates the point I have now made several times. We need not start at ground zero; earlier researchers have pointed out some of the more important research questions we can ask. Even though most of the references are drawn from studies in developed, that is, highly urbanized and industrialized societies, it should not be automatically assumed they are not relevant to developing countries. Such cross societal studies as have been done in the disaster area have consistently found more similarities than differences. Furthermore, we will not know if there are significant differences unless people like you take some of these ideas and see if they are applicable in your own societies.

A MOSTLY ANNOTATED BIBLIOGRAPHY ON DISASTER RECOVERY

Ahearn, F. and R. Cohen

Includes abstracts of post disaster studies of both short run and long run psychological consequences of disasters.

Alexander, David

An examination of the impact of the earthquake on industrial production, the cost of reconstruction, the effect on agriculture, and the distribution of disaster aid.
Alexander, David  

Anderson, W.  

Reports that in an 18 month study it was found that 17 of 23 organizations had experienced some structural and/or functional changes as a result of the earthquake experience.

Aysan, Yasemin and Paul Oliver  

This manual examines the social and economic consequences of postearthquake housing policies that have been implemented in many of the less well developed countries. It discusses the long term implications of postearthquake relief, reconstruction and resettlement.

Bates, Frederick (ed.)  

A study of differential consequences on different ethnic groups and families.

Bates, Frederick, Charles Fogleman, Vernon Parenton, Robert Pittsman, and George Tracy  

A longitudinal study conducted over four and a half years of Hurricane Audrey, it describes and analyzes the rehabilitation and recovery activities after the disaster and the long run social changes.

Benjamin, A. and M. Swallow  
1979  EARTHQUAKE RECONSTRUCTION PROGRAM FOR MANAGUA, NICARAGUA. Monticello, IL: Vance Bibliographies.

Nearly 175 citations on the reconstruction efforts that followed the earthquake in 1972. While about half of the sources are in Spanish, all annotations are in English.
<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Title</th>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(no author)</td>
<td>1979</td>
<td>BIBLIOGRAPHY ON NATURAL DISASTER RECOVERY AND RECONSTRUCTION.</td>
<td>Boulder, CO: Institute of Behavior Science, University of Colorado.</td>
<td>A partially annotated bibliography of about 135 published and unpublished</td>
</tr>
<tr>
<td>Bolin, R.</td>
<td>1982</td>
<td>LONG TERM FAMILY RECOVERY FROM DISASTER.</td>
<td>Boulder, CO: Institute of Behavioral Science, University of Colorado.</td>
<td>A longitudinal study of family recovery from tornadoes which struck Wichita</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Falls, Texas. Overall it was found that most families resumed their daily</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>patterns of living that reflect general continuity with their respective</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pasts, and that by far the strongest determinant of emotional recovery is</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>economic recovery. It was also observed that injuries within the primary</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>group had no major effect on the emotional recovery of victim families,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>about one fourth of the victims had to change residences at least three</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>times before being able to establish permanent homes, and that the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>disruptive effects of reconstruction activities on citizens can be</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>expected to persist for more than a year after the disaster.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and families,&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>white victims,&quot;</td>
<td></td>
<td>were related to variation in losses, psychosocial impacts, aid utilization</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>and social support, but not any demographic or socioeconomic factors</td>
</tr>
<tr>
<td>Patricia Bolton</td>
<td></td>
<td></td>
<td></td>
<td>in Nicaragua was studied longitudinally. Perception of recovery in America</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>is best explained by losses sustained, aid received and recovery of</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>predisaster income levels. In Managua, Nicaragua, the aid provided had</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>little effect; employment continuity took precedence over other variables.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>It is suggested that in order to recover predisaster levels of satisfaction</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>with life style, families reach beyond their immediate boundaries for help,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>but the</td>
</tr>
</tbody>
</table>
institutionalized manner in which this is done differs across societies.

Bolton, Patricia A.

It was hypothesized that subjective perceptions of final recovery depends upon objectively measured dimensions of income recovery, employment continuity, and the recovery of dwelling size and conveniences. The conclusion is that disaster recovery is not a unique social phenomenon, but is dependent upon the efficiency of preexisting social and economic networks in the community,

Caporale, Rocco, Ino Rossi and Anna Chairetakis

There were highly differentiated patterns of recovery in the different earthquake impacted villages, and examines the social, economic and political factors that account for the differences.

Chang, S.

Cohen, Raquel E. and Frederick L. Ahearn

Practical information is presented for developing a crisis counseling program, understanding post impact disaster behavior, and treatment techniques for helping victims at various time increments following a disaster.

Cuny, Frederick

A discussion of the possible relationship between recovering from disasters and developmental programs.

Dacy, Douglas C. and Howard Kunreuther

The aim of book is to formulate a clear cut case for the development of a comprehensive system of disaster insurance as an alternative to the current US federal policy. One
chapter deals with reconstructions and economic development following a disaster.

(D no author) 1983

DAMAGE CAUSED BY HURRICANE JOAN IN NICARAGUA: ITS EFFECTS ON ECONOMIC DEVELOPMENT AND LIVING CONDITIONS, AND REHABILITATION AND RECONSTRUCTION NEEDS. Santiago, Chile: United Nations Economic Commission for Latin America and the Caribbean.

Davis, Ian 1978


An analysis of problems faced by homeless disaster victims and the kinds of shelters that are often offered and provided. The problems associated with postimpact shelters are also related to the wider context of overall societal development. Brief case studies and summary charts are presented for a number of historical examples of sheltering disaster victims.

Davis, Ian (ed.) 1981

DISASTERS AND THE SMALL DWELLING. NY: Pergamon.

This volume contains 27 conference presented papers that focus mostly on social and economic problems associated with disaster shelter in developing countries. Many of the papers also touch upon larger issues of disaster assistance involving the shortcomings and benefits of post disaster aid when looked at in the long term.

Davis, Ian 1983

"Disaster as agents of change," Habitat 7: 277-310.

Davis, Ian (ed.) 1987


Drabek, Thomas 1986

HUMAN SYSTEM RESPONSES TO DISASTER: AN INVENTORY OF SOCIOLOGICAL FINDINGS. NY: Springer Verlag.

This volume summarizes much of the sociological and related research literature on disasters. Basic themes in studies done on restoration and reconstruction are presented in two of the ten chapters in the book, and there is relevant material in other chapters too.
Drabek, Thomas and William Key

An intensive and extensive study of how families coped with the Topeka tornado of 1966. Taking advantage of predisaster baseline data, control groups were used to compare disaster impacted and nonimpacted families three years after the event. Instead of finding increases in pathology, most of the impacted families showed better psychological and social adjustment than did the control nonimpacted families.

Erikson, Kai T.

A very detailed case study of the dam flood disaster in the mining area of Buffalo Creek, West Virginia. Emphasis is on both the short and long run psychological effects on the victims. The consequences are explained primarily in terms of the destruction of the community social fabric.

Erickson, P., T. Drabek, W. Key and J. Crowe

Fisher, Jack C.

Francaviglia, Richard

Focuses on the social, political and economic forces which planned the town's reconstruction, and how those plans have been implemented. Preimpact factors affected the rebuilding.

French, Steven P., Craig Ewing and M. Isaacson

Friesema, H. P., J. Caporaso, G. Goldstein, R. Lineberry and R. McCleary

Purpose of study was to identify long term social and economic disruptions resulting from natural disasters (a flood, hurricane and two tornadoes), to develop suitable methods for gathering the necessary data, and to ascertain variations in disaster recovery associated with event
severity and external assistance. It proved difficult to find any significant social or economic changes for the impacted community as a whole lasting any longer than a few months. The research also showed that both governmental and nongovernmental external aid is far more complex and generally more extensive in American society, than available reports of disaster expenditures would suggest.

Geipel, Robert
1982

The author shows the relevance of hazard theory to the case of Friuli, especially as pertains to reconstruction alternatives, the implications of location assignment of prefabricated housing, the impact of external intervention, and the victims' perceptions and assessment of natural hazards. It is also noted that the earthquake was not a leveller of social differences but accentuated preexisting differences, and that there is a serious question about the desirability of temporary housing to alleviate the conditions of emergency versus permanent rebuilding, though this may delay the reconstruction process.

Glantz, Michael (ed.)
1976

Gratton, V., H. Thier, E. Arjonilla and R. Melgar
1987

This paper, using the earthquake in Mexico City as an example, looks at the preparation needed by schools for medium to long term recovery from the physical and psychological effects of disasters.

Greene, Marjorie
1987
"Skopje, Yugoslavia: Seismic concerns and land use issues during the first 20 years of reconstruction following a devastating earthquake," Earthquake Spectra 3: 103--117.

A discussion of how early administrative decisions made after the 1963 earthquake affected the long run reconstruction of the city and some unexpected problems that were created.

Haas, J. E., Robert Kates and M. Bowden (eds.,)
1977
RECONSTRUCTION FOLLOWING DISASTER. Cambridge, MA: The MIT Press.

Case studies of reconstruction following the Managua earthquake and the Rapid city flash flood, as well as the
Anchorage and the San Francisco earthquakes. The central issues and decisions are based upon value choices that give varying emphases to easy return to normalcy, the reduction of future vulnerability, or to opportunities for improved equity, efficiency or amenity. It is observed that overambitious post reconstruction planning to reduce future vulnerability or to improve efficiency or amenity appears to be counterproductive.

Hanson, S., J. Vitek and P. Hanson
1979

Havlick, Spenser W.
1986

The author argues that much post disaster recovery and reconstruction efforts in the lesser developed countries (LDC) of the world frequently do not produce the necessary policy, institutional or structural changes needed to prevent or mitigate a recurrence of negative disaster impacts. It is also suggested that caution be used in importing into LDC the recovery techniques used in highly industrialized and urbanized societies.

Hegenbarth, Jane and David Brower
1985

Hogg, Sarah J.
1980

Hohenemser, C.R., R. W. Kates and P. Slovic
1983

Hoover, Greg A. and Fred Bates
1985

Using an interrupted time series analysis to determine the effects of a disaster on the rate and direction of change in the division of labor in a dozen communities, it was found that increasing complexity before the earthquake was followed by accelerated growth in complexity after the disaster.
Huerta, F. and R. Horton

Suggests that older victims may be better able along certain lines to deal with disasters than younger persons.

Kasperson, Jeanne and Roger Kasperson

Most technological risk assessment studies deal with hazards in developed countries. There is a need to consider that less developed countries have only limited expertise, few financial resources and overburdened institutions for dealing with the newer technological dangers and threats.

Kreimer, Alcira

The differential recovery processes in the two societies are described and compared.

Kunreuther, Howard and E. S. Fiore

A study of the immediate post disaster recuperation, the long term economic recovery and the role of the federal government in the reconstruction after the earthquake. Topics discussed include: supply and demand problems, external assistance, labor migration patterns, public and private reconstruction efforts, and economic improvements.

(no author)

A pamphlet which outlines the issues at stake when land use planning becomes a part of the reconstruction process, and which describes the changes in the land and land values after an area has been hit by an earthquake, flood, volcanic eruption, and an hurricane.

LaPlante, Josephine
May, Peter
1985
RECOVERING FROM CATASTROPHES: FEDERAL DISASTER RELIEF POLICY AND POLITICS. Westport, CT: Greenwood Press.

The evolution of US federal disaster relief and recovery policies has been fundamentally influenced by past uncoordinated congressional decisions, agency actions, and related politics and intergovernmental processes. Essentially the view expressed is that policies are the result of political and governmental processes.

May, Peter
1988

Notes that in the United States there is a political dilemma for disaster policy making. The politically most popular policy—expanding federal assistance for recovery and reconstruction—is both costly and does little to control longer run growth of disaster losses, but on the other hand, the politics that are believed to be most effective—preparedness and mitigation—are politically less salient and therefore unlikely to receive much attention during the active stages of federal disaster policy making.

Minnis, Mhyra S.
1971
THE VOICE OF THE PEOPLE IN DISASTER AND AFTER: A STUDY IN RESIDENTIAL INTEGRATION. Lubbock, TX: Texas Tech University.

Study of the adjustments of different ethnic groups when tornado victims from former segregated neighborhoods were relocated together. Also contains information on how housing decisions were reached and how they were affected by financial assistance programs and administrative decisions.

Mitchell, William
1976

The need for expediency in reconstruction and the influence of outside agencies created many problems and waste. The resulting reconstructed communities were aesthetically or practically inadequate and many of the new communities were left uninhabited.

Mitchell, William
1977

When earthquakes occur in areas where ethnic antagonisms and political instability already exist, the immediate
difficulties of relief and reconstruction are compounded by these problems. A basic question raised during reconstruc-
tion concerns the introduction of modern conveniences into a traditional society.

(no author) 1984

The model recovery program. Sacramento, CA: California Office of Emergency Services.

A pamphlet that provides guidelines for developing a coor-
dinated system to integrate predisaster emergency response and recovery planning for better conducting recovery opera-
tions.

Muller, Larry and Patrick Mulhern 1977


A brief account of the disastrous flash flood emphasizing initial federal, state, local and private relief groups actions in recovery and reconstruction. Political problems were compounded by personnel changes at federal and local levels during the time period of policy formulation and implementation.

(no author) 1986

THE NATURAL DISASTER OF MARCH 1987 IN EQUADOR AND ITS IMPACT ON SOCIAL AND ECONOMIC DEVELOPMENT. Santiago, Chile: United Nations Economic Commission for Latin America and the Caribbean.

(no author) 1977

NICARAGUA—AN ASSESSMENT OF EARTHQUAKE RELIEF AND RECONSTRUC-

Examines the monetary basis of disaster relief and recon-
struction: where does money come from, under what conditions is it loaned or given, what local organizations are responsi-
able for the specific dispersal of funds.

Oliver-Smith, Anthony 1977


Discusses the rehabilitative system established in the earthquake stricken area and notes that a housing program initially provoked great social conflict, but ultimately may contribute to a more cohesive social system. A program supporting peasants with food allotments while rebuilding their localities exaggerated schismatic tendencies present in the communities and contributed to attitudinal changes among
them. A relocation project to establish a provincial capital in a geologically safe zone, encountered resistance because it would have brought about radical structural changes in traditional social patterns.

Oliver-Smith, Anthony

Oliver-Smith, Anthony
1986 *The Martyred City: Death and Rebirth in the Andes.* Albuquerque, NM: University of New Mexico Press.

(no author)
1988 *The Organizational and Public Response to the September 1985 Earthquake in Mexico City, Mexico.* Newark, DE: Disaster Research Center, University of Delaware

Paulozzi, Leonard
1980 "Great myths in disaster relief--epidemics," *Journal of Environmental Health* 43: 140-143.

Peacock, Walter G., C. Killian and F. Bates

An examination of the effects of disaster damage, community type, housing programs, and other social determinants on household recovery after a major earthquake. While reconstruction aid was the single most important determinant of recovery, it was the type and not the value of aid that was critical. Strong support was found for the conclusion that temporary housing as a form of aid retards the recovery process, while permanent housing programs actually produces net improvement in living conditions.

Perry, Ronald and Hirotada Hirose

A cross societal examination of the impact of volcanic eruptions on two small communities with tourist based economies. The study highlights differences and commonalities in the responses including community reaction to the imposition of access control, functional shifts in the local economies after controls were lifted, and the impact of the public's perception of the hazard upon tourism.

Major emphasis is on sources dealing with recovery from war produced situations in industrialized societies particularly since 1939. Parts IV and V cite the disaster literature.


Proceedings of a seminar that considered issues relating to the prevention, response to and recover from problems of floods, high winds, earthquakes, volcanic eruptions and urban hazards, especially in developing countries and particularly those with metropolitan areas. Apart from a general description of the problems, there is set forth a series of recommendations for data base developments, for needed research, for education and training, and for implementation strategies concerning the various hazards.

Prince, Samuel 1920 CATASTROPHE AND SOCIAL CHANGE. NY: Columbia.

The first social science study to examine the links between disaster and social change.

Quarantelli, E. L. 1982 SHELTERING AND HOUSING AFTER MAJOR COMMUNITY DISASTERS: CASE STUDIES AND GENERAL CONCLUSIONS. Newark, DE: Disaster Research Center, University Delaware.

Suggests the value of distinguishing between emergency sheltering, temporary sheltering, temporary housing and permanent housing for disaster victims. In the United States there is little overall planning for any kind of post disaster shelter/housing, but to the extent it exist at the community level is aimed at temporary sheltering; to the extent temporary sheltering planning is undertaken it is fragmented among various emergency organizations; many sheltering and housing problems stem less from individual evacuees but from the organizations trying to help them; the permanent housing which will develop after a major disaster depends upon the predisaster housing situation and the influence of various local interest and power groups; and, sheltering and housing phases do not usually progress in a neat linear fashion.
Quarantelli, E. L.  
1986  
Research findings on organizational behavior in disasters and their applicability in developing countries. Preliminary Paper 107. Newark, DE: Disaster Research Center, University of Delaware

This paper discusses the possible application of lessons learned from disaster research in the developed countries to disaster preparedness and management in developing countries. It is noted that the latter as compared with the former do not have as complex organizational structures, that many of the key officials have obtained their professional training and education outside their own social systems, that such bureaucratic organizational structures as do exist tend to function from the top down, that in many such bureaucracies emphasis is on paperwork and form rather than functions or tasks, and that few distinctively separate local level disaster preparedness or response organizations exist.

Quarantelli, E. L.  
1986  
"Summary address at seminar on the social, cultural, and economic impact of disaster emergency aid in developing countries," ADDRO Newsletter: 4: 35-40.

Quarantelli, E. L. and Russell R. Dynes  
1976  

There is considerable variation in the presence or absence of community conflicting following disasters; to the extent there is a pattern it is the relative absence of conflict in the emergency period and its presence in the longer run recovery period. The presence or absence is functional or dysfunctional depending upon a series of other conditions.

(no author)  
1987  
RECOVERY AND RECONSTRUCTION PLANNING EXISTING POLICIES AND FUTURE DIRECTIONS. Los Angeles, CA: Emergency Management Committee, City of Los Angeles.

A summary of the policies and programs in Los Angeles for dealing with earthquake recovery, including existing policies, shelter provisions, public works and lifeline infrastructure, ordinances and building codes, community redevelopment laws, and legislative processes and state laws.
Rogers, George W.  

Uses population, employment, personal income, industry, state revenue and resource data from 1960 through 1967 to trace the economic effects of the earthquake. Overall, the economy benefited but effects differed among communities and areas.

Ross, G. Alexander  

Rossi, P., J. Wright, E. Weber-Burdin, and J. Pereira  

An examination of the average annual damages and personal injuries suffered in the United States between 1970-1980 from five hazards: household fires, floods, tornadoes, hurricanes and earthquakes. Analysis of aid received in the form of insurance payments, gifts, grants and loans showed that floods present the most serious problems to households, not only resulting in more damage but also less likely to be covered by insurance and more likely to lead the household into enlarging its debt burden.

Rossi, P., J. Wright, S. Wright and E. Weber-Burdin  

Rubin, Claire  

Studies conducted from six months to three years after disasters such as ocean flooding, a hurricane, flash flooding, and recurrent urban flooding, examined the success of community recovery programs and to identify significant new mitigation measures which had been adopted.

Rubin, Claire  

After studying fourteen American communities each recovering from a major natural disaster, it was concluded that the key
elements of recovery were: personal leadership, ability to act, and knowledge of what to do. In those localities where speed and quality of recovery was greater, local officials found ways to: ensure more productive intergovernmental relationships, compete effectively for scarce resources, and better manage community level decision making during the post disaster period.

Rubin, Claire and D. Barbee
1985
"Disaster recovery and hazard mitigation: Bridging the intergovernmental gap," Public Administration Review 45: 57-63.

Rubin, Claire with M. Saperstein and D. Barbee
1985
COMMUNITY RECOVERY FROM A MAJOR NATURAL DISASTER. Boulder, CO: Institute of Behavioral Science, University of Colorado.

A detailed discussion of how fourteen American communities, particularly their local government, attempted to recover from negative disaster effects. An analysis is made of the kind of disaster agent involved, the level of emergency preparedness planning, the kind of disaster agent involved, the role of community officials in recovery and postdisaster mitigation, and the community's view of itself and its future.


Seklregg, L., E. Crittenden and N. Williams
1970

An analysis of the planning in different communities that took place after the earthquake, to what extent planning was implemented, and the reasons for lack of or change in implementation.

(no author)
1982
SHELTER AFTER DISASTER: GUIDELINES FOR ASSISTANCE. Geneva, Switzerland: UNDRO

Topics discussed include the assessment of survivor's needs, shelter strategies; contingency planning and preparedness; the opportunity for risk reduction and reform during the reconstruction phase; the relocation of settlements; land tenure and land use; and housing financing. Eleven case studies provide examples of emergency sheltering and housing provisions following a major disaster.

21
Tierney, Kathleen and Barbara Baisden

A guide to problems involved in the organized delivery of mental health services after disasters (especially in smaller communities), it presents a survey of what is known about post disaster mental health needs, and includes an annotated bibliography on the relevant applied and theoretical literature.

Torry, William

It is suggested that disaster help by governments frequently acts, itself, as an agent of disaster by nurturing long term risk through short term remedies. It does so because sizeable capital outlays and institutional intervention from the national government weakens local support structures, and as the local autonomy of adjustments shrinks, the ensuring dependencies on remote, unpredictable, bureaucratic solutions to disaster management prevails.

Torry, W. I. (ed.)
1979  "Natural disasters and economic development." Special Issue. Mass Emergencies 4

Contains eight articles on major natural disasters in developing countries and consequences for their economic growth and development. Includes articles on famine administration in India, relocation of housing victims in Peru, post earthquake housing changes in Guatemala, and effects of droughts and famines in the Senegal.

Trainer, Patricia and Robert Bolin

It is said that too much concern is given to the physical reconstruction of cities while low priority and little attention are given to projects that might hasten the social restructuring of human activities.

Wells, F. R. and R. F. McCotter

While disasters are frequently followed by erection of temporary and sometimes substandard dwellings (which by default often become permanent), this paper advocates a
commitment to permanent building construction as rapidly as possible so as to eliminate the necessity for intermediate temporary housing. This will require predisaster planning.

Wettenhall, R. L. 1975
BUSHFIRE DISASTER: AN AUSTRALIAN COMMUNITY IN CRISIS. Sydney, Australia: Angus and Robertson.

A very detailed account of both the short and long run problems and responses to massive bushfires which affected Hobart, Australia and surrounding areas. Political aspects of the situation are particularly discussed.

Wright, J. D., Peter Rossi, S. Wright and E. Weber-Burdin 1979

Long term effects of floods, hurricanes and tornadoes that impacted American communities between 1960 and 1970 were studied using census data by statistically contrasting counties that had been impacted and control ones that had not, and by making similar contrasts within Standard Metropolitan Statistical Areas. The research showed that there were no discernible effects on population and housing growth trends during the period studied.

Wurtele, Zivia S. 1972
A CASE STUDY OF CORPUS CHRISTI AFTER HURRICANE CELIA AND A METHODOLOGY FOR EVALUATING ECONOMIC IMPACTS OF DISASTERS AND DISASTER ASSISTANCE PROGRAMS. Santa Monica, CA: System Development Corporation.

Presents two distinct models for approximating the economic impacts of a disaster, as well as a socioeconomic profile for monitoring a regional economy in the twelve months following a disaster. Application of model and profile indicates that despite damage estimates of over a third of a billion dollars, much reconstruction was accomplished in the year after the hurricane.