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THE IMPACT OF DISASTER ON THE
PUBLIC AND THEIR EXPECTATIONS

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INTRODUCTION

Although the title is overarching, I need to delimit. While it is conventional to talk about several disaster phases--preparedness, response, recovery and mitigation, the focus here is primarily on response. Too, I will focus on community disaster--where there is a sudden and major disruption of an urban area as a result of some natural or technological agents that threatens and/or impacts life, property and social routines. Community disasters are in contrast to accidents as well as, in contrast, to those rare catastrophic occasions which extend far beyond the normal routines of a single community. The "publics" here will be based on studies of individual and organizational behavior which provide some grounds for generalization.

The paper will make several inter-related points. For most Americans, concerns for risk and hazard have a very low salience. Disasters are not everyday worries for either citizens or public officials. This is true even for those who live in areas characterized by "objectively" high risk. In addition, citizens see themselves as having little responsibility for the consequences of disaster but give governmental units, especially local ones, greater responsibility.

Among citizens, actual disaster experience is relatively rare, even cumulated over a lifetime. However, they have opinions about what disaster is like, drawn primarily from various media. Those repetitive pictures suggest that individual "victims" do not cope well with disasters. Victims are

"stunned" and traumatized and that local organizations are disrupted and paralyzed. So, individual and social disorganization are combined to create image of widespread helplessness in context of other overwhelming problems.

The paper will argue that these disaster myths are not supported by extensive research on behavior in communities experiencing disaster impact. These myths, however false, still have social consequences. The paper concludes in detailing how the myths affect both disaster planning and emergency response.

ATTITUDES TOWARD DISASTER AND RISK

It is safe to say that, for most Americans, the presence of hazards and the potential for disaster are not things they worry about, even if they know that they might be in some risk. As an example, in 1977, Turner et al. (1986) interviewed 1,450 people in Southern California, an area which then, as now, has considerable earthquake risk. They started their interview by asking the respondents to identify the three most important problems facing local residents. In that context, given three choices, only thirty five people, or 2.4 percent mentioned earthquakes. They were next asked "If a friend was moving to southern California, is there any particular problem you might warn them about?" Sixty four percent said yes, but when they were asked to identify the problems, only 26 people mentioned earthquakes.

Somewhat similar findings come from a study of political elites across the country. In a sample of 20 states and 100 communities which represented perhaps three quarters of the 1977 U.S. population living in risk from a variety of disaster agents--floods, earthquakes, hurricanes, etc., Rossi et al. (1992) asked 2,000 political elites to rate the seriousness of 19 potential state and local

problems, including five environmental hazard problems. In all of the states, the most important problems were seen to be inflation, welfare costs, unemployment and crime, and the least important were the various hazards. In aggregate, pornography was seen as a more serious problem than any environmental hazard. In this study, those political elites saw natural hazards as private troubles rather than political issues. So not only for private citizens but also for political elites, risks, natural hazards and disaster have very low salience.

While in these studies there were some differences in levels of concern, there was no direct relationship between "objective" facts and the perception of threat. In a recent study of Palm et al. (1990), residents were studied in four California counties where objective seismic risk had been well mapped and publicized. Those who lived in the riskiest areas did not perceive the threat as greater than those who lived in less risky areas.

In addition to the low salience given hazards and risks, a recent study by Valerie Hans and Joanne Nigg (1994) tap attitudes toward responsibility for disaster consequences. The study asked respondents to evaluate responsibility among several different actors. In general, the respondents gave community residents little responsibility for their fate in both natural and technological disasters. On the other hand, they gave high responsibility to governmental officials for consequences, especially local government. In technological disasters, they also gave considerable responsibility to the owners and operators of the plant which created the risk (see Table 1).

Thus, for most persons, hazards and risk are given low priority in their private or public concerns. This is true even for those who live in especially risky areas. Those residents, as with others, are not likely to have made any special preparations for disaster impact, beyond that which they might utilize in their daily routines, such as owning a flashlight or a battery radio. They do not

see themselves as having much responsibility for the consequences of disaster impact. However, they see government officials, especially local ones, as having considerable responsibility. On the other hand, these local officials are not likely to have given activities such as planning and preparing for risks, much political attention. Their concern for hazards is also low on the list of political priorities.

EXPECTATIONS FOR BEHAVIOR IN EMERGENCY SITUATIONS

Actual involvement in disaster situations is a very rare experience for most Americans. Some studies suggest that perhaps thirteen percent of Americans claim to have experienced disaster at some point in their life and two percent indicate that this happened within the last year. It is difficult, however, to understand just what this means. It is rumored that over a quarter million people now claim to have been in Oakland Stadium at the World Series and have "experienced" the Loma Prieta earthquake. The stadium, however, holds less than 65,000. But regardless of meaning of "personal" experience, "knowing" about something is not restricted to personal experience. Much of what we know about disaster comes vicariously through various media sources. Certainly when a disaster happens, people experience it through reporting on the event. There are certain media themes which are persistently illustrated. Those themes suggest that neither individuals nor local organizations respond well to such situations (see Wenger, Faupel and James, 1985).

For those impacted by disaster, the image is conveyed that "victims" are prone to panic and to act irrationally. They will be stunned by sudden impact and will be unable to care for themselves. When they act, they will act selfishly and in self centered ways. Many will act in anti-social ways and others will become psychologically incapacitated. Closely paralleling the myths about victims are myths about the capacity and competence of local organizations. If communities are filled with

dysfunctional victims, it is assumed that community organizations will suffer organizational paralysis. Ordinary mechanisms of communication will be destroyed and organizational personnel will be afflicted by anxiety and grief. Too, the organizational structures which make decisions will be damaged, like the rest of the landscape, and that the structures of authority will tumble in the same fashion that brick walls do. The individual and organizational mythology suggests that disaster victims need to be saved and that local organizations are incapable of doing that. As a consequence, disaster impacted communities need the strong hand of the "cavalry" which is unnecessarily delayed because of bureaucratic fumbling. These images about individuals and about local organizations are both widespread and "believable." On the other hand, they are incorrect in almost all aspects. Each of the myths will be identified and briefly critiqued on the basis of research evidence.

VICTIM MYTHS

1. The panic myth. The term panic, of course, has many referents. If the referent is that most human beings during disaster impact will be frightened and afraid, that is correct. But usually there is more to the attribution of "panic" which suggests that people will aimlessly run around, hysterically break down, and behave in ways inappropriate to the situation. Research has shown, however, that panic in that sense is extremely rare and almost absent in community disasters. Instead of manifesting the negative aspects of panic, such as fleeing, "victims" will usually converge on the impact sites to help in ways that they can. They intentionally and deliberately search for relatives and friends. They do what they can for themselves and others in the situation. While they may be concerned and frightened, they do not act selfishly or impulsively. One can make a good case for the fact that they will act more rationally then, in the sense of considering alternative actions, than they do in making

everyday decisions. While panic flight can occur in very specific situations, such conditions are not usually present in community disasters. They are more likely to be present in a specially focused emergency situation, such as a nightclub or hotel fire. Panic behavior has little practical or operational importance in the great majority of community disasters and it can be ignored in disaster planning, except in keeping in mind that it is a myth.

2. The passivity myth. Another part of the mythology is exactly the opposite of panic--that of a paralysis of action. This is often expressed that people are so stunned or shocked that they will be unable to do anything for themselves. The imagery is often perpetuated by agencies that suggest that someone--usually their agency, needs to assume the responsibility for providing such elementary assistance.

Research has consistently shown that this image of helplessness is incorrect. "Victims" are neither devoid of initiative nor passively expectant that others should care for them or their needs. "Survivors" initiate search and rescue efforts. Over 90 percent are typically rescued this way. Injured are found and transported to medical attention. Temporary shelter is sought and offered to kin and friends. Far from seeking and depending on formal relief agencies, these agencies are usually the place of last resort for victims.

3. The anti social myth. Disasters are usually portrayed as offering the opportunities for the surfacing of antisocial behavior. The notion that crime and exploitive behavior emerges is often supported by mass media accounts and by widely circulating stories. According to research studies, this image is also incorrect and mythical. Many stories of looting do circulate, but actual instances are very rare and when they do happen they are likely to be done by outsiders, who have come to "help" rather than by the victims. In actuality, prosocial rather than anti-social behavior is the

dominant theme. If disaster behavior reveals anything, it is about altruism, not criminal behavior. Such crime as does occur is far below what might be expected in the same community during "normal" times.

4. The traumatized myth. The traumatic stress of disaster experience is widely thought to have short and long term negative consequences for mental health. Supposedly, people are psychologically scared so they cannot function effectively and many emotionally damaged victims are left behind in the aftermath. This image of great stress as creating serious mental health problems is another one of the prevailing myths. In reality, community disasters very rarely, if ever, create new psychoses or severe mental illness. Outpatient treatments by mental health clinics, visits by psychiatrists, self reporting surveys, admissions to mental health institutions, use of psychotherapy facilities and outreach programs to find survivors needing psychological help consistently fail to find post impact increases which can be interpreted as signifying the appearance of serious mental health problems as a result of disaster impact (Quarantelli, 1985). To support the argument that disaster brings about such problems requires showing frequencies above normal everyday rates--estimated in some studies to be 15 percent of the population--which field studies have consistently failed to find. On the other hand, if you have theories which assume that the lack of evidence simply confirms the relationship, then evidence is always irrelevant. Certainly, disasters can generate many surface psychological reactions such as sleeplessness, loss of appetite, anxiety and irritability, but these tend to be sub-clinical, short lived and self remitting. Also important is that, even with such reactions, these are rarely incapacitating in terms of everyday behavior. While the disaster experience can become a part of the psychological makeup of the person, recorded in memory, such experience is seldom dysfunctional for the day to day tasks of the individuals involved. In contrast, disaster

experiences can have favorable psychological consequences, strengthening positive images and strengthening social ties.

ORGANIZATIONAL MYTHS

Just as there are a number of myths about individual behavior, there are somewhat equivalent myths about organizational behavior. While in the United States, there is a considerable cultural value given to individualism and individual action, there is recognition that community organizations are the focus of response activity. While neighbors can rescue victims, they cannot provide major medical services. The restoration of power and water are not tasks which individual homeowners can easily do. The clearance of debris from roads and road repair cannot be accomplished by the collective acts of many different individuals. Some form of community organizational action is necessary. Perhaps, the major organizational myth that persists is that "Local organizational action in disaster impacted communities is incapacitated." That overarching myth is composed, and justified by a number of parts.

1. The organizational paralysis myth. Part of this myth is based on the image of workers who are "victims." Being a victim implies that personal effectiveness is destroyed. If victims are stunned and shocked, they cannot be "effective" workers. As a major part of this myth is the notion that community residents will experience "role conflict" of having to choose between their work or their family responsibility. The logic continues that given such conflict people will opt for family responsibility and thus organizations will lose their workers. Such assumptions, of course, ignores the fact that workers deal with and solve this "conflict" on a daily basis and are quite effective in adapting to new circumstances in a variety of ways. Certainly one common option is to bring the

"family" to work and that action increases organizational personnel for overhead activity. In fact, one of the major problems during the emergency period is not the loss of personnel but the inability of organizations to effectively utilize volunteer personnel, including family members of their organization.

2. The communications failure myth. This myth places the emphasis on the undercutting of a responsive plan of action on the absence of and, more importantly, on the technological failure of communications. Most of the communications problems which emerge, and they do, rest less on technological failure on subtle changes in the structure of disaster impacted organizations. Many organizations increase their activity to accomplish new disaster tasks but do not expand their own internal communication structure. Too, organizing a disaster response increases the number of organizations involved in common tasks and thus increase the scope of necessary communications. Too, many of the organizations have to deal with the "public" in ways different from their day to day routines and often do not have the necessary skills. Many of the communication problems rests on the difficulties of developing information about "what happened." Some communities do not have the routine capacity to quickly develop information about changes--damage assessment, determination of injuries and deaths, assessment of life line failures. These are problems of collection not dissemination. However, there is an implicit assumption that someone should "know" if you could reach them by phone. Certainly in their emergency response there will be problems with inter and intra organizational communications but the preoccupation with technological failure will seldom correct them. The issue is not the medium but the message. Even with technological failure, substitute channels can be found.

3. The deterioration of authority myth. Building on the notion that individuals are traumatized and stunned, this is generalized to the idea that the capacity of organizations to make decisions is severely affected. This myth is sometimes enhanced by notion that key officials may be absent. Certainly, decision making is important in implementing an emergency response. At times, unfamiliar problems have to be addressed and the speed at which decisions are made may need to be increased. That being the case, in fact, decision making becomes more decentralized. But in general, there are no dramatic changes in the nature of pre-disaster organizational and community authority. The usual people and the usual ways decisions are made tend to persist. This myth is often believed most readily by those outside the community who wish to exercise authority without continuing responsibility.

4. The social chaos myth. This myth is partly derived from the anti-social myth and joined with the deterioration of authority myth. It suggests that routine community life exhibits a rather thin veneer of civilization which is easily ripped apart by disaster events. In planning documents, this state of chaos is anticipated by the assumption of the necessity for the imposition of a command and control structure to replace incompetent authority, at least until the emergency is over. This is often reinforced by media which seeks those in charge for stories. Being disappointed by the ambiguity created by the absence of "facts," the media often implies that the difficulties of developing information is the fault of "officials." The picture of "weak" authority is compounded with stories of looting, exploitation and more generalized fears about the disorganized nature of the impacted community. Too, there is a generalized assumption that individuals cannot be trusted to behave appropriately in emergency situations and require "rules" which can be enforced with certainty. Such

a picture is most sharply drawn by "outsiders" who do not "know" the community, so unfamiliarity is quickly converted into a perception of chaos.

ON THE CONSEQUENCES OF DISASTER MYTHOLOGY

By using the metaphor of "myths" here does not imply disasters do not create "real" problems for communities. They do. But as a result of the persistence of mythology, many communities allocate time and energy to false problems which could be utilized more effectively in some other way. Wenger et al. (1985) pointed out that many emergency management officials shared the beliefs of many publics in these myths and that as a result, this could affect both planning and the implementation of disaster response. They comment:

"Organizational resources may be allocated toward solving unrealistic problems. Necessary warnings and protective information may not be distributed in fear of panicking the residents... Valuable personnel may be wasted in unused shelters. Local organizations may not be prepared to integrate their relief and recovery activity with the ongoing, emergency patterned activity of the victims. Equally important, it is likely that disaster planning will not be based on factual assumptions of social behavior." (p.225)

A major consequence of the collective "mythology" is the propensity to overestimate the extent of damage (everyone is injured or traumatized) and underestimate the resources which are still available within the impacted community (Everything is gone and no one is doing anything.) Taking one delimited example, the Loma Prieta earthquake which occurred in 1985 in the Bay Area. In that earthquake, 62 persons were killed and 1,000 persons visited emergency rooms with earthquake related injuries. Of this number, 73 percent were treated and released. Damage to one hospital required evacuation. This impact can be compared with the number of "survivors" in the six county affected area, which meant 4,219,131 people. Within the six county area, there were 64 undamaged

hospitals with a normal bed capacity of 14,808 as well as 35 ambulance companies. Examining the case loads of the hospitals the night of the earthquake, less than half of the visits were earthquake related (Tierney, 1992). In another study (O'Brien and Mileti, 1993) after Loma Prieta, in two of those counties indicated that a large majority of residents--70 percent in Santa Cruz and 60 percent in San Francisco--participated in some type of emergency response activity. Three percent of San Francisco respondents and five percent of the Santa Cruz respondents engaged in search and rescue activity. While these percentages might seem small, when extrapolated to the populations of those counties, they add up to over 31,000 volunteers.

Ironically, one of the consequences of disaster mythology is that there is an "over" reaction to the disaster event. This overreaction assures the fact that there is an effective response which is produced in a very inefficient way. (This is certainly better than an efficient response that is not effective.) Increases in efficiency, however, can be achieved through understanding the community as a traditional problem solving entity and by seeing planning for emergencies as a logical and integral part of that problem solving tradition. That necessitates identifying rapid changes within the community and the reallocating of community resources to deal with these changes. That places a greater premium in disaster for gaining information, better coordination and a more inclusive process of decision making for the "good" of the entire community. Those capacities and abilities are not destroyed by disaster mythology, but they are resources which every community has and can be mobilized in making an effective response.

SUMMARY AND CONCLUSION

In the United States, disasters and hazards are not an everyday concern for most American publics. These publics accept little personal responsibility for the effects of disaster nor for taking preventative action themselves. On the other hand, they assume that governments, especially local ones, will have high responsibility.

Most Americans have had little direct experience with disaster but have considerable exposure to media accounts of disaster behavior. On the basis of that exposure, they develop certain "myths" about disaster behavior. In general, they assume that others do not perform well in disasters because victims exhibit disorganized behavior and because community resources are destroyed or become ineffective. While these myths have little validity when they are compared with the body of research on individual and group reactions, the widespread acceptance of these myths, even by emergency officials, insures an over-response to disaster problems. That over-response combined with the more realistic response within disaster impacted communities usually is very effective in solving disaster problems. On the other hand, it is usually very inefficient. There is some irony in the fact that disaster continues to evoke altruistic behavior and attitudes in a time when such altruism is being withdrawn for more routine and persistent community problems.

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TABLE 1
RESPONSIBILITY FOR COMPENSATION FOR
PERSONAL INJURY CAUSED BY DISASTERS¹

ACTORS	TYPE OF DISASTER	
	NATURAL DISASTER	TECHNOLOGICAL DISASTER
Federal Government Officials ²	6.21	7.22
State Government Officials	7.29	7.88
Local Government Officials ³	7.59	8.35
Scientists ²	2.69	5.13
Architects and Engineers ²	3.61	4.90
Builders and Contractors ²	3.82	4.77
Owners of Chemical Plants	----	9.42
Operators of Chemical Plants	----	6.96
[Other] Business Owners	3.14	3.03
Community Residents ³	3.15	2.65

¹Respondents rated responsibility on 10-point scales, where 1 = no responsibility and 10 = high responsibility.

²Significant difference between Natural and Technological Disaster conditions.

³Significant difference between Moderate and Severe Disaster conditions.

SOURCE: Table 3.6, Hans, Valerie and Joanne M. Nigg, (1994).