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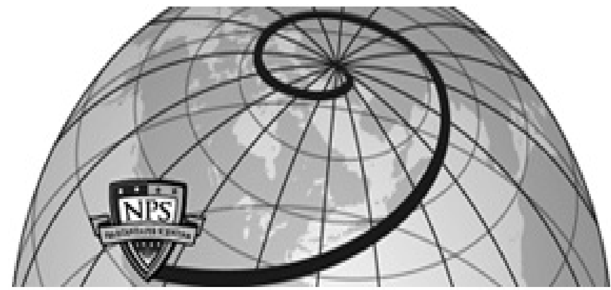

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Social Capital: Dealing With Community Emergencies

Russell R. Dynes

Recent events in the United States have generated considerable discussion about dealing with emergencies. Such discussion has produced congressional investigations and governmental reorganization while blaming victims for their own ineptness. Much of that discussion misses the point. Every community shows evidence of past problem solving and many of those problems were considered emergencies. Everywhere, people solve their problems within their own social and cultural context. Cities that experienced traumatic damage in World War II – London, Hamburg, Dresden, Hiroshima, and Tokyo – are still vibrant communities.[1] San Francisco recently celebrated the 100th anniversary of the 1906 earthquake. Some celebrated the city's continuity but others predicted a dangerous future. We easily recall the disasters but forget the continuity and creativity of these communities.

When new threats appear, they are usually seen as more deadly and more disorganizing than those that have come before. On the other hand, we often miss the effectiveness of individual communities in addressing these threats. In 1995, when the federal building in Oklahoma City was bombed by domestic terrorists, the city was home to a population of 450,000 and had fifteen hospitals. Within ninety seconds after the blast, emergency medical services had seven ambulances and two supervisory vehicles en route to the scene. The final report indicated that by 9:45 a.m., there were more medical personnel, drivers and people wanting to help than the site could handle. By 10:30 a.m. there were 442 people treated at various emergency rooms, eighty-three hospitalized and 243 treated by private physicians; all live victims, with perhaps two exceptions, had been removed from the damaged building. This effort – centering on a bomb-destroyed building – involved 167 deaths and 675 non-fatal injuries. The unanticipated emergency response from the community dealt with the immediate injuries in a little more than an hour.[2]

Of course, the central symbol of international terrorism in the United States was the collapse of the World Trade Towers in New York and the perhaps 3,000 deaths that resulted from the collapse. Often overlooked, however, is the fact that at the time of impact there were an estimated 17,400 occupants in those buildings and eighty-seven percent of them evacuated successfully. Most of the deaths were on the floors or above the floors where the planes hit. It is now determined that ninety-nine percent of those below the impact floors successfully evacuated.[3] This successful evacuation was not accomplished by conventional search and rescue groups; it was the result of people on site helping others and themselves to take protective action to get out of the towers and to a safe location. While the loss of property and life occurring on 9/11 is frequently recalled, the protective actions of the other "victims" in the building are often overlooked.

Much of the contemporary discussion about emergency planning assumes that community members "panic" and that strong authority is necessary. The vocabulary of "command and control" suggests chaos rather than citizen adaptability and creativity. Such assumptions can be questioned by the research evidence accumulated in recent years.[4] While we calculate damage to physical and human capital, we usually ignore the social capital available within communities to deal with emergencies. Social capital is our most significant resource in responding to damage caused by natural and other hazards, such as terrorism.

DIFFERENT KINDS OF CAPITAL

Insight into the ways in which communities respond to emergencies can be found by looking at the types of capital used to construct the human community. Most obvious is physical capital. We have tools and materials to build houses and streets, string wires or go wireless, build 110-story towers and create the material environment we experience every day. Also obvious is the necessary human capital. We build schools and colleges, as well as clinics and hospitals, to provide people with skills, knowledge, and health care. The concern for human capital is obvious. We want to improve it, not lose it, so we develop programs to improve test scores, increase stays in school, improve nutrition, and prevent diseases.

Most recently, attention has been given to another kind of capital: social capital. Social capital is not located in individual people, as is human capital, but rather is embedded in social relationships and networks between and among members of a community. These relationships can be used to guide collective action in emergency situations. In other words, even with losses to physical and human capital, social capital is less affected, can be quickly repaired, and provides an essential resource in accomplishing critical tasks.

The concept of social capital has been used in different ways. This discussion is based on the work of James Coleman, who identifies six different forms of social capital: obligations and expectations, information potential, norms and effective sanctions, authority relations, appropriable social organizations, and intentional organizations.[5]

Obligations and Expectations. Living within a community creates a network of obligations – to other family members and kin, to neighbors, workmates, other members of religious and social groups, and to unknown members of the community. Within this context, we develop trust that our obligations will be repaid when we need help. Over time, we build up many obligations that serve as an indication of the interconnectedness of our social world. These types of interconnectedness increase the resources available to all individuals involved in those relationships when a need presents itself. These obligations and expectations are rarely visible to "outsiders;" in fact, they may be difficult to articulate even for the people included in such networks. But they represent resources that will become available when the need is apparent and action is necessary.

Informational Potential. Information is important as the basis for action – what needs to be done. With sudden and unexpected changes, information can be obtained by using social relationships maintained for other purposes. While the

media has been given heightened importance in the modern world, individuals – by interacting with other informed members of the community – can increase their knowledge without having to obtain that information directly. In addition, while the media might provide "general" information, the specific implications for an individual have to be tailor-made. People talk to one another.

Norms and Effective Sanctions. The communication of a "declaration" of an emergency signals that self-interested behavior needs to be subjugated to the interests of the community. Norms defining what needs to be done and what should not be done organize action. They facilitate some actions and constrain others.

Authority Relations. When groups are organized to pursue specific goals, a leader is often chosen to make decisions and speak for that group. This leader has access to an extensive network of capital that amplifies the social capital of individual members. Such a leader can "volunteer" the network to engage in specific tasks. Volunteering is never an isolated act, but rather the action of some people involved in several other networks.

Appropriable Social Organizations. One outcome of social life is the creation of organizations for specific purposes. Most organizations, however, can be used for purposes other than those for which they were initially intended. A school intended to educate can be used as a first aid station, a shelter, or a coordination center, staffed by school personnel (including current students). A house of worship can be used in similar ways. Such reallocation of organizational effort provides flexibility to cope with unexpected problems. Routine activities can always be suspended for more urgent problems. This allows a community to reallocate its efforts and to utilize its physical and human capital in different ways.

Intentional Organizations. As human communities have added complexity, organizations engaged in recurrent activities of continuing value have emerged, each with its own history. Fire departments, police departments, emergency medical services, sanitation departments, traffic and parking have become routine and expected community services. Most recently, some political units (from local to national) have begun to think of emergency management as a routine community function. This has led to the development of specialized training and the emergence of a new occupation and career path. Such innovations point to another source of social capital now available to deal with emergencies.

The discussion here will focus on the community as the social system, within what are called developed societies, especially the United States. (Developing societies present a series of different issues, which will not be discussed here.) In part, the emphasis on developed societies is dictated by the scope of existing research available for analysis. Further, the focus will be on the response phase. It has become conventional to categorize disaster along a time spectrum – preparedness, response, recovery, and mitigation. The most difficult part of the spectrum to study is response, primarily because this phase is short and often unexpected. This makes response difficult for "planned" research. Much of the research on response has been opportunistic and lacking in the cumulative continuity necessary to develop generalizations. Also, some "response" research is done months and years after the

event, which raises questions about the nature of recall and, perhaps more importantly, misses the emergent qualities of the response.

The most systematic research on disaster response in the United States was initiated at the Disaster Research Center (DRC) in the late 1960s, where field teams were able to research a number of different communities.[6] Much of that research has been reported and published. In *Organized Behavior in Disaster*, conceptualizations from that fieldwork are recorded, in terms of the theoretical ideas that guided the research at that time.[7] Here, those materials are used as the basis for reconceptualization in terms of social capital. In addition, comments will be added from other studies of disaster response that illuminate this concept.

From the earlier research, the concept of emergence seems particularly important. The original DRC research design was predicated on a Time I/Time II comparison of changes in community structure. It soon became apparent that certain critically important elements in the response had no pre-response existence: the phenomenon called emergence. As Thomas Drabek suggests in a later summary article:

> What is it that makes an appearance? Within the literature, the two general categories of social phenomena have been described – behavior and expectations. In short, what emerges is a sequence of patterned behaviors – a social structure. These behaviors...may form relatively simple social systems.[8]

Here emergence is seen as the creation of new social capital. In many instances it emerges from existing social capital, but at other times it is "new" in that it is created to meet new problems created by the disaster. This view is contrary to most media accounts of disaster, which portray community structure as fragile and unable to deal with disaster problems, often implicitly suggesting that "survival" is dependent on external aid. As Coleman points out in an earlier and different context:

> It may seem paradoxical that problems create community organization, but such is nevertheless the case. A community without common problems, as many modern bedroom suburbs tend to be today, has little cause for community organization; neither does a community that has been largely subject to the administration of persons outside the community. When community problems subsequently arise, there is no latent structure of organization, no "fire brigade" that can become activated to meet the problem.
>
> A new town, a budding community, is much like a child; if it faces no problems, if it is not challenged, it cannot grow. Each problem successfully met leaves its residue of sentiments and organization; without these sentiments and organization, future problems could not be solved.[9]

It is the intent of this article to examine the research done on disaster response, primarily in the United States, in the context of the six dimensions of social capital identified by James Coleman. While the cited research was not initially guided by these concepts, there are sufficient descriptive materials to make realistic inferences.

OBLIGATIONS AND EXPECTATIONS

There are two rather dramatic changes regarding obligations that occur in the emergency period. Pre-disaster "normal" community functioning is oriented toward achieving many different goals relating to work, family, education, and leisure. A

disaster situation changes things rather dramatically since now community resources may not be sufficient to pursue all goals. Taking two illustrations, while health and medical issues are always important, the disaster situation increases their priority, centering on attention to disaster "victims." On the other hand, education (normally given a high priority), becomes less important; school buildings and school personnel can be utilized in ways related to caring for victims. In a sense, the pursuit of certain activities and obligations are reordered as to how they become relevant to disaster impact. This process can be referred to as the development of an emergency consensus.[10] It provides a new and distinct ordering of priorities, in contrast to the seemingly random and competitive activities of pre-disaster community life.

A second change can be seen as the expansion of the citizenship role. In "normal" times, the obligations of citizenship are quite modest, mostly centering around "housekeeping" norms relating to the maintenance of property, control of pets and children, making an appearance at neighborhood celebrations, exhibiting community pride at school athletic events, and participating in periodic elections. For some, the obligation may involve becoming a member of a volunteer fire department or providing goods and labor for events that support such communal activities. In most of cases, the costs of participation are minimal and even enjoyable. Disasters, however, create unknown problems (some even life threatening) and provide the opportunity for stronger identification with the community on the part of its residents. In effect, the obligations of citizenship are enhanced and the focus of activity is clarified. This provides guidance in sorting out the appropriate role behavior in response to the emergency.

Because individuals play multiple roles, they have multiple obligations and expectations. In sudden-impact situations, it is likely that the initial set of obligations is conditioned by a person's role at the time (the family role at home or the professional role at work). In some popular discussions of disaster, considerable interest has centered on the possibilities of role conflict: ways in which people were forced to choose between family-role obligations and disaster assistance. The general assumption has been that people abandoned their work roles, especially in emergency organizations. Research has shown that the image of roles as rigid and conflictual is less accurate than seeing roles as adaptive. Disaster situations often provide guidance on the importance of certain roles and obligations and highlight the lesser importance of other role obligations.[11]

Individuals in a disaster context have the potentiality of playing many different roles: family member, neighbor, worker, and for everyone within the community, the citizenship role.[12] For example, if a person engages in search and rescue activity, it might be done in terms of his or her specific role-obligation, or in relation to a more generic role as a "good" citizen. The felt obligation of the rescuer is, in large part, irrelevant to those rescued. Any disaster "victim" has a cadre of people who have an obligation to help; other family members, neighbors, workmates, or any other member of the impacted community.

The importance of obligations and expectations is reflected in search and rescue. During the first period after disaster impact, search and rescue efforts are carried on primarily by other "victims" in the area; they seek and extract victims and take them to where they can receive medical treatment.[13] When emergency medical personnel

arrive on the scene, they have to use the knowledge of neighbors to locate remaining victims and the members of the community continue to help in all phases of the rescue operation. Much of the rescue operation will be terminated when formal rescuers arrive. In the 1980 Italian earthquake, ninety-seven percent of the entrapped and injured victims evacuated and transported to medical care were rescued by bare hands and shovels, not heavy equipment.[14] This illustrates the importance of social networks. Of those who were trapped and living in single-person households, forty-six percent were rescued, as compared to sixty-one percent of people living in multiple households. People living in single households experienced a death rate 2.4 times higher than those living in households with one or more of the household present. Michael LeChat suggests that, given the usual delay in the arrival of external rescue teams and equipment, there is a need in earthquake-prone areas to educate local communities in rescue procedures, particularly since the longer a person is trapped, the higher the mortality rate.[15]

An excellent study of search and rescue following a gasoline explosion in Guadalajara, Mexico, in which victims had been buried alive and rescuers were near them, comments on these findings:

> People did not participate in the search and rescue efforts at random. Instead, their participation was a function of the strength of their preexisting social linkages and interdependencies with the victims and fellow rescuers. Their search and rescue efforts were part of a stream of ongoing social relations in which people participated, and from which their activities on behalf of their relatives, friends, acquaintances, or even strangers obtained meaning. The rescuers prioritized life; all human life was precious for them but the lives of those socially closest to them were deemed more important.
>
> The chances of people surviving the blast were directly proportional to the presence among the searchers of a person or persons who cared for the victim and who knew the victim's likely location at the time of the blast.[16]

Even the decision to seek medical help on the part of the victims is not necessarily obvious. A study of a sample of tornado victims in Edmonton, Alberta indicated that while 15.3 percent of the victims made that decision themselves, family and friends made 28.6 percent of the decisions. While 19.4 percent of the respondents did not know how the decision had been made, only 26.5 percent of the decisions were made by some 'official' source. In addition, about forty-five percent of the victims were provided transportation to medical attention by family, friends, and others; about the same percentage were transported by official means (ambulance, in the car, or by a casualty bus).[17]

In other contexts, family obligations continue to be important. "When people evacuate, they commonly do so as group members – most typically the group is a family unit. This means that evacuation planners at any level of government must explicitly recognize the social webbing and seek to design plans that complement it, rather than neutralize it."[18] When families evacuate, where do they go? Some studies show that up to eighty-five percent prefer to go to relatives and friends, rather than to public shelters.[19] That preference to stay with friends and relatives is reinforced by invitations offered by kin. A study of the May 1980 eruption of Mt. Saint Helens indicated that almost thirty-five percent of the evacuees were contacted first by someone at their evacuation destination.[20] All of this suggests that behavior during

the evacuation phase is prefigured by normal daily routines and action choices are guided by obligations that existed prior to the disaster situation.[21]

In a study of the 1985 Mexico City earthquake, which used a sample of the entire city population, ten percent of respondents indicated that they left their homes in the year after the earthquake; eighty-six percent went to relatives and another five percent went to friends. Of the people included in the study, 11.2 percent indicated they had temporarily sheltered relatives or friends in their own homes sometime during the year following the earthquake.[22]

While the previous examples emphasize the importance of family and neighborhood obligations, there is another source of obligations that are reflected in what we called earlier the expansion of the citizenship role. Residents feel obligated to participate in actions that will reduce the threat to other members of the community, even if family and other relatives have not been directly impacted by the disaster. A disaster occasion is characterized by a significant number of volunteers who become involved in a wide variety of assistance activity. Media depictions of volunteer activity often imply that the outpouring of volunteers is a consequence of "failure" on the part of organizations to mobilize regular employees. Or volunteers are seen as an interesting, but not very significant, source of help; at times, the reliance on volunteers is seen to support the argument for increased external help. In the Mexico City study cited above, there was an opportunity to ascertain the extent of volunteer activity and the ways in which volunteers had become involved. About ten percent of the sample indicated that they volunteered immediately after the earthquake. Such a percentage may seem small, but given the population base of Mexico City (one of the largest urban areas in the world) ten percent represents over 2,000,000 people – certainly a significant volunteer response.

Most of these volunteers either engaged in search and rescue or helped in the procurement and processing of supplies. Nearly half indicated that they had worked four days or longer, and almost eighteen percent had worked ten days or more. In terms of daily time commitment, forty-five percent said they had worked an average of nine hours a day. The volunteers were not just from the areas of the city immediately affected by the earthquake, but from all over the city; people who had no direct family or kin ties to the victims. This significant volunteer response occurred within the context of an estimated loss of less than two percent of the city's housing stock. Among our sample, only 5.5 percent suffered considerable damage to their housing, plus disruption of all utility services.

The volume of volunteers often creates a different type of problem for emergency managers. Instead of anticipating the lack of volunteers, a more important problem emerges: how to make the most effective use of the volunteers in realistic emergency activities. (Some community organizations will have extensive experience in utilizing volunteers in other situations.)

The importance of obligations and expectations as a form of social capital in disasters can be stated negatively in the following way. Socially isolated individuals are less likely to be rescued, seek medical help, take preventative action (such as evacuating), or receive assistance from others in the form of shelter. Conversely, existing social networks provide effective search and rescue in removing victims, helping them to seek medical attention, and providing transportation to medical help locations. The same social networks provide motivation and encouragement to

take preventative action, such as evacuation, by their willingness to provide temporary shelter as well as longer-term housing assistance. These same social networks are the channels that motivate volunteers to provide labor for important disaster-related tasks, which compensates for losses in physical capital.

INFORMATIONAL POTENTIAL

The role of informational potential as social capital can be identified in several different aspects of disaster behavior. Certainly, one of the universal observations regarding emergency situations is the increased need for information and the actual increase in information: The increase does not necessarily fit the need. When situations change, and a disaster is a classic case of a sudden change in reality, both individuals and social units need new information to orient their actions. For social units representing the community, this may mean "damage assessment" of what actually happened. Prior to impact, individuals may need to gather information for preventative action. Again, social networks provide the channels whereby individuals develop a perception of risk and are motivated to take some type of preventative action.

To illustrate this point, both warning and evacuation will be discussed in the context of information potential. There have been times, in certain situations, when "officials" have been reluctant to issue warnings based on their assumption that "people" would panic. In addition, evacuation has at times been discussed as a "failure of will" on the part of citizens who were trying to avoid some kind of threat. Fortunately, those assumptions are increasingly rare. But there are still troublesome assumptions, on the part of emergency managers, that the best way to warn people is to provide "official" public information through the media. This is based on the assumption that individuals will watch television or listen to the radio, hear the official warning, and consequently take the recommended action. Research-based descriptions of the warning process and effective evacuations underscore ways in which the "public information" imagery is likely to fail, however, and show how social capital is an important element in effective action.

In examining the research base on warning and response, Colleen Fitzpatrick and Dennis Mileti outlined the process in five different steps: hears, understands, believes, personalizes, and decides/responds.[23] Each of the stages is interactive and independent of individualistic mental stages. Other people help you "hear"; not everyone watches the media all the time. Others help you understand and believe; people still talk to one another. Others help personalize the message, pointing out that the general message actually applies to the current situation, and then assist in discussing appropriate action. Research has shown that if protective action is not taken, there is an effort to seek additional information. That is, the process is iterative. As Fitzpatrick and Mileti point out: "People respond to warnings through a social psychological process...which persons in an endangered public do and do not hear, understand, believe, personalize, and respond to emergency warnings is not the result of chance."[24]

Ronald Perry has developed a model to understand how people comply with an evacuation plan in a sample of three different disaster models. He underscores the importance of the social nature of the warning process, emphasizing the importance of warning-source credibility and the way in which warnings are confirmed by other

people; he also considers the content of warning messages. Perry notes, "The three events studied here represent comparable events in that each involved some forewarning and was characterized by definable speed of onset, duration of impact, and scope of impact." He adds, "the idea that the same model will predict evacuation behavior in connection with a flood, a volcanic eruption, and a hazardous materials incident, calls into question the popular strategy of classifying research on disaster events in terms of the type of event (e.g. Natural versus Manmade)."[25] Perry also includes family context in his model since evacuation is not individualistic; families evacuate as a group or, when missing members, only when those missing members are determined to be safe (although in Perry's samples, no family member was missing at the time of evacuation).

The importance of social networks for informational potential can best be appreciated when there are failures to take protective action. One such example, described by B.E. Aguirre, examined the conditions whereby the community of Saragosa, Texas was not provided tornado warnings. Saragosa, an unincorporated town in Southwest Texas, had a population of 428, and there were twenty-nine known deaths from the impact of the tornado. The community, comprised almost entirely of residents of Mexican-American descent, was part of a geographically large county. The description of the possible path of the tornado in warning messages was difficult to identify in familiar locational terms for those in the community. A major element in the warning's failure was that almost the entire community watched *Univision*, the national Spanish television network, which did not provide localized weather information. While some local radio stations did provide some warning messages, there were difficulties in making distinctions, in Spanish, between a tornado watch and a tornado warning, and the weather conditions immediately prior to the tornado provided few clues of the impending danger. As a result, the population of Saragosa did not receive the official warning messages, because their own social networks were isolated linguistically and geographically from the Anglo networks.

The importance of social networks as information potential is not undermined by the presence of several social networks within the same community. Certainly one of the key tasks of emergency managers is to understand the plurality of networks and how they might require different channels to convey important messages rather than assuming that a single media source will reach a mass audience and that all groups within the community will be part of that mass. This issue will become increasingly important since the 2000 census points to the growing diversity in the U.S. population; both television and radio address an expanding number of diverse audiences, reflecting distinctly different social networks. Returning to Fitzpatrick and Mileti's formulation of the warning process, if people do not hear, it is impossible for them to understand, believe, personalize, or decide and respond.

NORMS AND EFFECTIVE SANCTIONS

Effective norms constitute a powerful form of social capital. This form of social capital facilitates certain actions and constrains others. Allan Barton suggested a series of relationships between a disaster event and the emergence of altruistic behavior that continues to have considerable face validity.[26] Examples include: (1) The higher the proportion of victims and the average loss, the more communication

and knowledge there will be about the losses suffered by the victims; (2) When informal social connections are strong within a population, the sufferers are more likely to be more salient as a reference or identification group; (3) Social randomness of impact influences beliefs about the causes of the suffering; (4) The more communication and knowledge there are about the losses suffered by the victims, the more people will feel sympathetic towards them; (5) The greater the informal social connectedness of the community, the higher the percentage of members with opportunities to help victims; (6) The greater the proportion sympathetic to the victims, the more people will actually help the victims.

These propositions suggest that many disasters produce the optimum conditions for the development of altruistic norms. Disasters are relatively free of ideological disputes about cause, which tend to reduce channels of communication. If impact is sudden and creates socially random damage, this makes for greater saliency of sufferers as a reference group. All these conditions combine to create obligations to help and to emphasize helping as a community norm. The widespread perception of the community norm increases the actual behavior of helping.

In addition to the conditions that provide normative support for helping behavior, the development of an emergency consensus, mentioned earlier, provides a ranking of values and suggests that care for victims and the restoration of routine community services should assume high priority while education, leisure, and non-critical work efforts can be set aside until the higher priority goals are achieved. In addition to the effort directed toward high priority goals, there is a reduction in enforcement of what is seen as inappropriate norms for the situation. For example, conventional norms, which enforce appropriate work dress, are ignored; coats are replaced by jackets and dresses are replaced by slacks. In addition, certain conventional bureaucratic norms are abrogated – expenditures that require two signatures are made with one; meetings based on appointment are replaced by meetings based on need. In all of these actions, there is a greater informality and less attention to status. (In fact, one indication of the end of the emergency period is when such norms are re-sanctioned again.)

There are two situations that deserve mention here since they are, seemingly, attempts to sanction appropriate disaster behavior. First is the admonition frequently made by emergency officials in the media urging people not to panic. Second is the reassurance coming from various agencies that these agencies are doing "everything" to prevent looting. Both of these repetitive themes, accentuated during the emergency period, suggest that panic and looting are frequent and problematic in these situations. Research suggests otherwise, although this review centers on conclusions.

Panic describes a condition of acute fear coupled with flight. While extremely rare, it can occur when certain conditions are present – when people are aware of a specific threat to themselves, perceive they are entrapped, and are isolated from others – producing feelings of social isolation. These conditions are rarely found in disaster situations.[27] Many "victims" do have some anxiety and, in certain situations, flight may be a very appropriate response, especially if it is an evacuation.

It is obvious that the admonition not to panic is sometimes an expression of "macho" ideology. At other times it is an official message designed to encourage behavior an agency might desire, rather than letting individuals decide for

themselves, regardless of the "official" plan. In any case, such admonitions have little effect in curbing behavior that probably would not occur anyway. On the other hand, the belief that panic is a widespread response to disaster can be self-destructive if officials are reluctant to issue warnings and alerts because they fear citizens will panic if informed about potential risks. Otherwise, the ritual of reminding others not to panic is as effective as parental warnings to be good.

A second situation deals with the strong media focus on various efforts to prevent "looting." Such reports seem to suggest that looting is widespread and problematic during disasters. The concept of looting conjures visions of an invading army, but the evidence suggests that looting is a rare occurrence in natural disasters. Nevertheless, the image of disasters followed by the looting of property persists.[28] The primary explanation for this discontinuity – between popular conceptions and the absence of evidence for the behavior – centers on appropriate norms regarding the proper use of community resources after a disaster.

Property has reference *not* to any concrete thing or material object, but as a shared expectation about what can or cannot be done with respect to something. Property thus is a type of social relationship – a shared understanding about who can do what with the valued resources in a community. These understandings are widely shared and are embedded in legal norms indicating the appropriate use, control, and disposal of valued resources within the community. Those norms change radically in what are seen as wide-spread emergencies; the concern for property norms are reflected in the fear of looting. In this, the fear may be real but the behavior is infrequent or absent:

> In natural disasters, in American society at least, there quickly develops a consensus that all private property rights are temporarily suspended for the common good. In one way, all goods become community property and can be used as needed for the general welfare. Thus, warehouses can be broken into without the owner's permission to obtain generators necessary to keep hospitals functioning, and the act is seen as legitimate if undertaken for this purpose even though in a strict sense the participants might agree that it was technically an act of burglary. However, the parties involved, the local legal authorities and the general public in the area at the time of the emergency do not define such actions as looting and would react very negatively to attempts to impose such a definition.
>
> On the other hand, there is very powerful social pressure against the use of goods for purely personal use while major community emergency needs exist. In a way, the individual who uses anything for himself alone is seen as taking from the common store. The new norm as to property is that the affected group, as long as it has emergency needs, has priority.[29]

In both of these instances, panic and looting, there are convictions that such behaviors are both common and problematic. Perhaps the only way to resolve this contradiction is to see these convictions – that people behave badly in disaster – as symbolic sanctions for "appropriate" behavior in disaster, the recommended etiquette for unusual circumstances. Such concerns are symbolic reminders, not effective sanctions, aimed at preventing these behaviors from emerging. Again the preoccupation with preventing looting often leads to the allocation of security personnel to non-existent or trivial tasks. On the other hand, such an allocation is

likely to be successful since prevention is quite possible when the problems do not exist. Consequently, the concern for these issues following a disaster does not mean that they are, in fact, problematic, but rather that disaster provides the opportunity to celebrate the virtues of rational behavior and respect for property.

Finally, there are two special circumstances worthy of note. First, a number of researchers have commented on the development of "disaster subcultures." For example, Dennis Wenger has noted:

> ...in fully developed subcultures, the local community may not even perceive or define the impact of a disaster agent as being "disastrous." Some communities have institutionalized their mode of response to the point that they view such events as floods as simply nuisances or possibly even look forward to the flood period as a time of "carnival."[30]

Such subcultures arise in communities that have repetitive experiences with a particular agent so that the disaster occasion becomes a part of the annual calendar of community life. Norms-appropriate behaviors are already in place to cover the situation. Such subcultures tend to develop in communities where there is a considerable amount of instrumental knowledge based on previous experience.

A second circumstance has come about through the adoption of emergency planning by emergency organizations, especially those in the public domain with disaster responsibility. In this instance, there is the development of norms applicable to emergencies, which remain "latent" in non-emergency times. These may involve a responsibility to monitor particular hazards, planning for work force reporting and shift extension, and mechanisms for communicating organizational information to employees. Many of these latent emergency norms are simply extensions of routine organizational activities. The sanctions for violating these norms in an emergency context are already embodied in the reward and punishment system of the organization. So the emergency norms are unique only in the sense of the timing of their implementation, but they are based on the pre-disaster structure of these organizations. The transition does not lack continuity and is rooted in familiarity.

While disasters are frequently seen as situations of normative disorganization, in fact the social processes provide the conditions for priority and effectiveness. The development of the emergency consensus gives high priority to care for victims and the restoration of essential community services, and de-emphasizes other usual community activities so that human and material resources can be reallocated to the higher priority tasks. The conditions are such that altruistic norms are supported. Some of that support takes the form of rumors, moral tales, and stories that underscore appropriate behavior for the situation. The emphasis on, and spread of, emergency planning have provided guidance for appropriate behavior in emergency situations. All of these factors provide significant social capital for emergency situations.

AUTHORITY RELATIONS

To treat authority relations as a form of social capital in disaster response seems paradoxical, especially when a conventional view of disaster is seen as the prototype for social disorganization, primarily from the loss of authority. This conventional view of the loss of authority during disasters has been the rationale for public policy

arguments for the necessity to create "command and control" structures as a central feature of emergency management. On the other hand, in American society in particular, there has always been a popular skepticism of authority of all kinds and a particular distaste for those who claim authority without any social justification. This suggests that it is difficult to create authority for special situations. It also suggests that most forms of authority relations continue as social capital in disaster and that other forms can be modified, adapted, and transformed to fit the particular circumstances. Consequently, it is useful to talk about authority relations in the context of family and neighborhood, community organizations, and the community as a social unit.

Family Authority

As has been suggested in the discussion of obligations and expectations, family authority does not break down. In fact, family units continue to make allocative decisions as to how family resources are used. For example, in search and rescue efforts, family members can be "released" to assume certain disaster tasks while others take on additional family duties; a husband and wife may become involved in search and rescue efforts while assigning the oldest child or a grandparent to deal with childcare during that time. Too, it is quite common for certain emergency roles to be filled by families rather than individuals. A wife may have responsibilities to open and maintain a shelter operation for evacuees, while her husband and children deal with the shelter's day-to-day maintenance; children might be moved out of their bedrooms to house relatives whose houses have been damaged. These are all allocative decisions on how to use family resources, made within the usual family authority structure and through the usual decision processes. None of these decisions can be "mandated" by the community and none of them is planned or even anticipated, but they occur and constitute social capital. None of the activities violates or changes previous family authority.

Organizational Authority

Existing community organizations carry most of the burden of disaster response. The pattern of organizational involvement has been well documented by what has been observed in a variety of disaster occasions.

Figure I
Pattern of Organizational Involvement

STRUCTURE	TASKS	
	Regular	**Non-regular**
Old	Established Type I	Established Type III
New	Established Type II	Established Type IV

Four types of organization reflect two dimensions: structure and tasks. Some organizations perform the same tasks in disaster response that they normally do, but others take on new activities. Too, some organizations function with the same basic relationships among members during the disaster response than they had previously. In other cases, totally new structures emerge. By cross-tabulating the two dimensions (structure and tasks), four different types of groups can be identified.[31]

Using that typology, the implications for authority relations can be assumed. For example, established organizations (Type I) become involved in disaster response with the same authority relationships that existed prior to their response. A Type II organization continues with the same authority relations, but with expanded size and volunteers with previous involvement in the organization (and thus knowledge and some experience with the normative authority structure). Type III organizations have a pre-disaster existence, but extend their activity by dealing with realistic disaster tasks. This might be exemplified by a construction company that becomes involved in debris removal or a church group that takes over responsibility for a temporary feeding operation. While there are new tasks, the pre-disaster authority relationship continues. These personnel constitute a group rather than individual volunteers and, in their actions, they maintain their pre-disaster structure.

The only type not to have a pre-disaster history is the Emergent Organizations (Type IV). While there is a considerable literature on emergence, there has been little direct attention given to issues of authority relations.[32] One of the most complete descriptions of a work crew that emerged in the aftermath of a tornado is Louis Zurcher's discussion of the social psychological functions of ephemeral roles.[33] In that description, Zurcher emphasizes the development of a division of labor among the participants and the emergence of group solidarity. His description suggests that an emergent group that develops around an "immediate" need in the post-disaster environment is very task-related and the focus is on the division of labor necessary to accomplish those tasks. His description focuses on the process of differentiation; the work groups dissolved prior to any attempt to institutionalize and insure their continuity.

It is important to note that the different organizational patterns also have different combinations of social capital. For example, Type I organizations enter the emergency with homogeneous relationships – bonding relationships that strengthen the social capital that exits prior to the emergency period. On the other hand, Types II and III are usually a mixture of bonding and bridging relationships. Type IV emergent groups link parts of the community structure together, a linking necessary for the new tasks at hand. Such linking may have been unnecessary prior to the collective cooperative response. One consequence of this activity is to strengthen the identity of members of the community under crisis.

The pattern of involvement indicates that authority relations within organizations provide the social capital necessary for the overall emergency response. Authority relations do not have to be reworked in the disaster context and the return to the pre-disaster authority context is usually an easy transition. Emergent groups, however, constitute a newly-created form of social capital for dealing with newly-created and unanticipated problems. These groups tend to be task-oriented and the relationships within the groups tend to be based on an emergent division of labor in which authority relations are built on function rather than status.

Community Authority

There is a widespread perception, especially by the media, that there is confusion and disorganization within the community authority structure immediately after disaster impact. Such a perception more accurately describes a "natural" process whereby the community is able to achieve coordination of the many necessary tasks, some of which are new to previous community experience. In the early stages of disaster impact, there is uncertainty as to what has happened and urgency to act – to do something – on the part of community members. Mistakes may be made. Some organizations may allocate considerable resources to obvious, visible problems, which might not be central, given a more inclusive view. Some may over-mobilize, resulting from members wanting to do something. Others may find it confusing that volunteers are already doing tasks that organizations see as their exclusive province. Some organizations may find that they cannot "work" until another organization finishes its tasks. For example, one cannot transport injured people to the hospital until roads are cleared (what some call sequential interdependence).

These problems begin to be solved with efforts to coordinate community activity. Coordination is often a by-product of the search for information and leads to the development of a coordinating locus within the community (usually centered in the local government) that has come to terms with priorities.[34]

In this process of developing coordination, organizations with pre-disaster legitimacy continue. Police deal with social order and traffic. Fire departments deal with fire and other safety problems. Public Works departments deal with utilities and road problems. Hospitals and medical personnel deal with the injured. While some organizations might find themselves working with segments of the community for the first time in a new relationship, even emergent groups are an amalgam of pre-disaster authority relations rather than something completely novel.

In fact, the basis for the emergence of coordination of disaster tasks within the community is the pre-disaster authority structure. Thus, it is an important form of social capital. While some organizations may not be disaster relevant and may not be involved, others may play roles more important than those of their pre-disaster status. But the basic structures of the organizations that deal with the health and welfare of the community maintain their importance during the emergency period. In many ways, the priority of disaster-related tasks makes decision-making more rational. And one can argue that such decision-making is more effective than the diffuse and individualistic decision-making norm in the pre-disaster situation. In any case, the authority structures within families, within community organizations, and in the community as a whole generalize from their pre-disaster patterns and serve as the base for the community effort in the emergency period. They do not have to be changed or radically modified. Continuity is the dominant theme and familiarity is a consequence.

APPROPRIABLE SOCIAL ORGANIZATION

One result of a reordering of community priorities, as reflected in the emergency consensus, is that not only are certain tasks given high priority, but other activities are assigned low priority in the overall emergency needs. This means that many community members can be allocated disaster tasks, which can greatly increase the

available work force. Two forms of this reallocation of social capital are more common: Type II Expanding Organizations and Type III Extending Organizations (See Figure I).

Expanding organizations are designed to utilize volunteers who have previous contact with the organization. These individuals express their helping behavior through conventional social organization. They are members of or participants in an organization that has emergency responsibility in its charter and so has established plans that call for the addition of personnel to meet disaster needs. These organizations have a latent structure that is activated when emergencies occur. This latent emergency structure has, in its preplanning, already specified the necessary roles and relationships. When such a plan is activated, those who have positions in the emergency organization are notified by a call-up system or may report to assist simply by their recognition of the presence of conditions on which the plan is based.

Such a system for channeling helping behavior is characteristic of most traditional emergency organizations, such as police and fire departments, civil defense offices, Salvation Army units, public works organizations, and local Red Cross chapters. A police department may have an auxiliary police unit that is activated under certain conditions. The norms that guide helping behavior already exist within the pre-disaster organizational structure and, in addition, the volunteer is placed in preplanned social relationships. The volunteer fits into a rank structure within the auxiliary police unit, and the relation of the regular departmental authority structure has already been established. These structures allow for relatively efficient matching of personnel to tasks at hand in an emergency.

The second form of social capital reallocation, extending organizations, can best be described as a group of volunteers or members of an organization that has no specific emergency-related purpose. Such groups may, however, be concerned broadly with community service and so, when a disaster occurs, see disaster-related activities as a logical extension of their previous orientation. The individual group member does not volunteer; the organization does. The member's involvement is an extension of group membership. The behavior then follows pre-disaster patterns of social relationship, while new norms emerge, focusing group activity on new disaster-related tasks.

Examples of extending organizations include a scout troop mobilized by the scoutmaster to act as messengers for an emergency operation center; a church building used as a shelter and staffed by church members, or a parochial school staffed by the parent-teacher association; or a Veterans of Foreign Wars post that assumes responsibility for feeding disaster workers. In all these instances, considerable personnel can be mobilized quickly and channeled toward tasks created by the emergency. In addition to personnel, such groups and organizations have at their command many other types of resources – buildings, supplies, money, and information.

It is important to emphasize that the behavior of the two types of volunteers described above follows lines of already-established social relationships. These are not spontaneous, random acts of generosity on the part of isolated individuals; they are extensions of pre-disaster relationships.

INTENTIONAL SOCIAL ORGANIZATION

One can find, in the historic record, specific occasions when central governments have been involved in disaster situations, often with immediate relief. Most of that involvement has been on an *ad hoc* basis; when the immediate tasks were finished so was the governmental responsibility. In that context, the Lisbon earthquake of 1755 can be identified as the first modern disaster because of the emergency responsibilities initiated by the early patterns of a central government.[35] That has changed. E.L. Quarantelli, using the broader term of civil protection, suggests:

> As we enter the 21st century, civil protection has finally become explicitly accepted as a major governmental responsibility in practically every country in the world. At the national level, usually the relevant activity is quartered in a formal governmental agency, very close to but relatively rarely at the highest level such as a cabinet office.[36]

In the United States, a bifurcated system developed whereby national security issues were the concern of a national civil defense system, but local offices of civil defense were primarily concerned with local disasters. In a study of local civil defense in the 1960s by the Disaster Research Center, the following conclusions were noted:

> 1. The scope of disaster planning was broadened to include a wider range of disaster agents… 2. There was a decline in the assumption that preparation for a nuclear attack was sufficient planning for all types of disaster contingencies… 3. There was a shift in focus of disaster planning from the emphasis on security of the nation to the concern with the viability of the local community.[37]

The DRC report went on to say that in the 1970s, the local community civil defense offices varied considerably in the scope of the hazards with which they were concerned:

> Some are completely focused on planning and the associated task of dealing with nuclear attack. Others are primarily concerned with natural disaster hazards. Many are concerned with both but the degree of emphasis on one or the other will vary. A smaller number show a range of concern with a wide range of hazards – man-made, nuclear, natural disaster, etc.[38]

During the '60s and '70s new concepts emerged. There was considerable discussion of "dual use" – the idea that facilities could be used for both national security and local disaster problems. There was the notion that the focus should be on all hazards within the community and the idea of "comprehensive emergency management" (CEM) began to be seen as an increasingly important function of local government. In some states, divisions of emergency management were created. And, in 1979, federal agencies with disaster responsibility were combined and reorganized into a Federal Emergency Management Agency.[39]

The development of FEMA into a functioning emergency management organization took a long time. Its development as a federal/state partnership was enhanced by pressures on the agency from states where major disasters occurred. In addition, concern for traditional nuclear and civil defense issues receded. During the first Clinton administration, a former emergency management director from the president's home state began to restructure FEMA to deal with the full range of

policy concerns – from mitigation of hazards to disaster recovery. These concerns were severely truncated with the terrorist attack in New York on Sept. 11, 2001, a new presidency, and the incorporation of FEMA into a large new agency called the Department of Homeland Security (DHS).

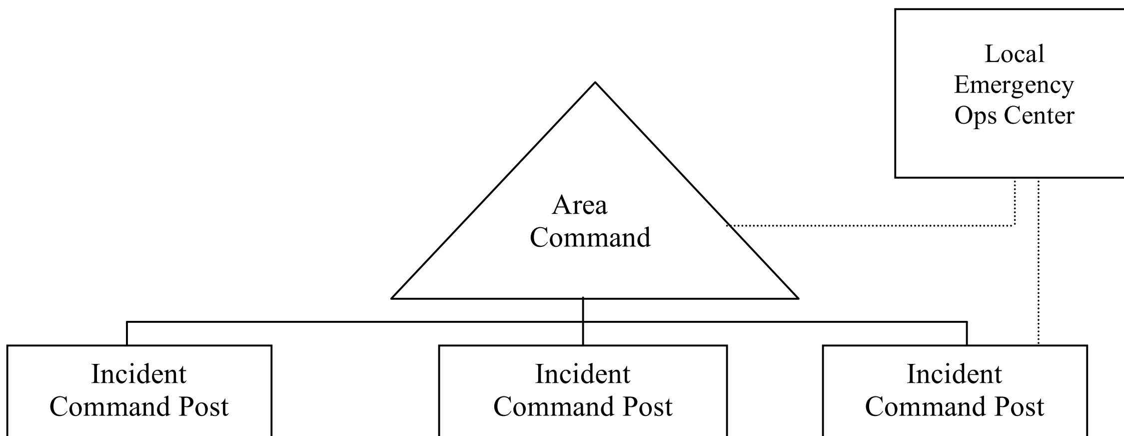
In general, this reorganization was made with the rationale of strengthening national security and addressing the threat of terrorism. In this transition, many of the assumptions coming out of World War II and the Cold War were revived and re-institutionalized. The necessity for homeland security seemed to be predicated on the weakness of individual citizens and the fragility of our social structure, requiring the government to enhance its ability to "command and control." The necessity of command and control has been revived and in general is based on a set of assumptions about what happens in emergencies, especially those caused by terrorist attacks. Specifically, the command and control approach:

1. Assumes social chaos and dramatic disjunctures during the emergency.
2. Assumes the reduced capacity of individuals and social structure to cope.
3. Creates artificial social structures to deal with that reduced capacity.
4. Expresses a deep distrust of individuals and structures to make intelligent decisions in emergencies.
5. Places responsibility in a top-down authority structure to make the right decisions and to communicate those "right" decisions in official information to insure action.
6. Creates a closed system intended to overcome the inherent weakness of "civil" society to deal with important emergencies.

The vocabulary of "command and control" is reflected in the issuance of a national response plan in December 2004 in which, in describing the proposed organization at the local level, "command post" terms are specified.

Figure 2

Organizational Structure



The national structure for incident management establishes a clear progression of coordination and communication from the local level to regional and national headquarters level. As illustrated in Figure 2, the local incident command structures (namely the ICP(s) and Area Command) are responsible for directing on-scene emergency management and maintaining command and control of on-scene incident operations.[40]

Alternative Assumptions

The first test of this "reorganization" in the United States came with Hurricane Katrina and was not reassuring. Perhaps the catastrophic scope of Katrina was not a fair test.[41] On the other hand, it prompted every legislative body, every political unit, and every media outlet to offer criticism, and some of the suggestions were relevant. Such criticisms have reenergized the move toward standardization, bureaucratization, and militarization of emergencies in modern democratic societies. This movement will continue to inhibit the effectiveness of social capital and to maximize the ignorance of authorities regarding the dynamics of the resources of local communities. These issues will continue to be problematic.

A much more realistic set of assumptions for emergency planning should center on "problem-solving" rather than command and control:

1. Emergencies may create some degree of confusion and disorganization at the level of routine organizational patterns, but to describe that as "social chaos" is incorrect.
2. Emergencies do not reduce the capacity of individuals and social structures to cope. They may present new and unexpected problems to solve.
3. Existing social structure is the most effective way to solve those problems. To create an artificial emergency-specific authority structure is neither possible nor effective.
4. Planning efforts should be built around the capacity of social units to make rational and informed decisions. These social units need to be seen as resources for problem solving, rather than as the problem themselves.
5. An emergency, by its very nature, is characterized by decentralized and pluralistic decision-making, so autonomy rather than the centralization of authority of decision-making should be valued.
6. An open system could be created in which the premium is placed on flexibility and initiative among the various social units, whose efforts are coordinated. The goals of efforts should be oriented toward problem solving, rather than avoiding chaos.

Kathleen Tierney observed that the response to the September 11th terrorist attack was so effective because it was flexible:

> The lesson here is that the response to the September 11th tragedy was so effective because it was *not* centrally directed and controlled. Indeed, it was flexible, adaptive and focused on handling problems as they emerged. It was a response that initially involved mainly those who were present in the

> immediate area where the attacks occurred and then later merged the efforts of officially designated disaster response agencies with those of newly formed groups as well as literally thousands of other organized entities that had not been included in prior emergency planning and that were not subject to any central authority.[42]

An alternative model for emergency response, based on the utilization of social capital, would be to use what exists and to capitalize on the characteristics that emerge during the crisis, rather than to create an artificial set of norms and structures. The continuity and persistence of behavior and structure that characterize the notion of social capital are evidenced in the following ways:

- Rather than interpreting emergencies as a direct break in experience, individuals tend to normalize threat, to define situations as normal, and to continue habitual patterns of behavior.
- Rather than exhibiting irrational and abnormal manifestations of behavior, individuals exhibit traditional role behavior and maintain occupational and familial obligations. Irrational and anti-social behaviors do not, in aggregate, increase (in fact, they probably decrease).
- Traditional social structures such as families maintain their viability and can be utilized to assume additional emergency responsibilities. For example, there is good evidence that almost all search and rescue activities are done by kin and neighborhood groups. In addition, there is evidence that warning messages are mediated through traditional social structures, rather than through impersonal media. There is also evidence that kin and neighborhood groups provide mass shelter for a large majority of affected populations and that planned mass shelter is useful only for a small segment of the population.
- Rational social structures such as community organizations maintain their viability and can be utilized to assume additional emergency responsibilities. For example, traditional health care institutions carry out almost all emergency medical care. Health care offered by first-aid stations or by hastily-constructed emergency facilities tends to be ignored and rejected.
- The way people define the situation and determine appropriate behaviors requires heightened, rather than restricted, communication. The command-control model places great faith on "correct" information, officially decreed. What are officially defined as rumors to be controlled are actually part of the definitional process. Thus, messages and channels of communication need to be increased rather than restricted.
- Rather than seeing self-initiated helping action as disruptive because such actions were not planned, it is more appropriate to see planned action as supplemental to self-initiated actions.
- Rather than attempting to centralize authority, it is more appropriate to structure a coordination model. The fact that emergencies have implications for many different segments of social life, each with their own pre-existing patterns of authority and the necessity for simultaneous action and autonomous decision

making, indicates it is impossible to create a centralized authority system (that it is probably unnecessary). The centralization of authority is usually predicated on the image of disintegration of social life. The evidence points to a viability of behavior and the adaptability of traditional structures, suggesting that authority is more of a problem in the minds of planners than an actual problem of life under emergency conditions. Planning should focus on coordination and the development of communications, rather than the creation of authority.

SPECIFIC SUGGESTIONS FOR ENHANCING SOCIAL CAPITAL

The basic assumption relating to social capital is that the local social system is the logical and viable base for all stages of emergency action. Certain specific courses of action can be suggested as a guide to policy:

1. Utilize a variety of mechanisms to increase community identification and collective responsibility. Enlist religious and other civic organizations to build disaster responsibility into routine messages about moral and civic responsibility. In particular, there is a need to remind the community that the greater the disaster, the more the community will have to depend on its own resources. Disaster memorials, anniversaries, and other civic occasions provide such opportunities.
2. Involve civic organizations in planning activities. Develop an inventory of and knowledge about community resources, both people and materials. Encourage organizations to develop certain useful disaster skills. For example, groups with physical locations, such as churches, schools, and some civic organizations, might develop skills in running mass feeding operations, shelters, information centers, etc. Local contractors might be encouraged to have meetings discussing the latest information on search and rescue in high-rise building collapses. Certain community skills such as knowledge of first aid might be encouraged as an important attribute of civic responsibility. More specific guidelines should be utilized for those community members engaged in disaster planning.
3. Utilize existing habit patterns as the basis for emergency action. To do this effectively, knowledge of the patterns of social life and their routines is essential. For example, in making plans for evacuation, it is best to utilize usual patterns, e.g. easily-designated and commonly-traveled routes.
4. Utilize existing social units, rather than create new *ad hoc* ones. If families are the major point of resource allocation within the community, utilize that system. Much of the thought in American society is individualistic; much of the activity in emergency situations is family-oriented. Organizations running shelters should think in terms of family units, not collections of individuals. The same thinking should characterize evacuation plans. In addition, much governmental assistance is directed toward individual applicants. To modify that suggests radical change, which is unlikely, but there needs to be a constant reminder that the "people" come in social units and need to be accommodated that way.

5. Utilize the existing authority structure, rather than create new ones. The speed with which decisions are made can be increased more easily by the use of a traditional structure than by the creation of a new one. The establishment of authority, which involves not only power but the acceptance of that power, takes time and is not easily or quickly reversed. It is better for outsiders to supplement local leadership than to assume locals are incompetent and incapable or outsiders are wise and competent.

6. Utilize existing channels of communication and increase them, rather than restrict and narrow them to "official messages." Information about potential risk, potential threat, and potential preventative action are not disorganizing; the lack of information, in the quest for certainty, may be. Any effective emergency plan is based on the autonomous and independent decisions of many to take appropriate action. These actions are more effective when communication is enhanced than restricted. Remember that people talk to one another, so these interpersonal channels should be used in addition to the mass media. Citizens are at work or school, engaged in many different collective activities and are not attached to the mass media. Remember that members of minority and immigrant communities may not access the same communication networks that the "official" community utilizes. Some citizens may be socially isolated because of disabilities, age, illness, and geographical location. Attempts to reach these people can also utilize conventional methods of social capital.

7. Since it is difficult for citizens or politicians to maintain interest in activities concerned with local risks, at least a minimum level of concern should be maintained by institutionalizing support for emergency management functions within local government. Encouragement should continue for training activities leading to the professionalization of the emergency manager. This task may be best supported at a national level. Collectively, training efforts should become an integral part of municipal services, which would require only a small part of the cost of current emergency services. This would mean the creation and cultivation of citizen lobbying for the initiation and continuation of such services, making them as routine as the functions of the police, fire, ambulance, and other emergency services.

8. The aim of emergency planning is to move back to the "normal" as quickly as possible after a disaster. This means the restoration of commerce, the reopening of schools, and the reinstitution of usual community patterns. Inconvenience is more easily adapted to than absence. And the therapeutic process, both for individuals and communities, is enhanced by the reestablishment of habitual actions.

9. The recovery stage should not be seen as the opportunity for massive (and directed) social change. Nor should possible mitigation opportunities during the recovery be implemented so as to drastically alter the traditional social structure of the community. This does not imply that

> there are no opportunities for mitigation during the recovery period; it suggests these opportunities be approached with humility rather than enthusiasm. Mitigation efforts can be effective if adapted to local community practices.

LOOKING BACK AND FORTH

This article began as an effort to examine the utility of the concept of social capital when applied to the existing research findings relating to disaster response. This concept has the advantage of moving away from a current preoccupation with hazards as a cause of, and mitigation as a solution to, disasters. It has the advantage of shifting attention away from making the environment sustainable and looking at how social systems can function in any environment. The concept of social capital has the advantage of seeing social systems as active resources, not passive victims, shifting the focus away from human vulnerability toward an emphasis on human capability. It has the advantage of identifying the creation of social resources in emergency situations, rather than focusing primarily on the destruction of physical capital. In these respects, the concept of social capital shows considerable promise.

Moving back to disaster-related topics, there are a number of possibilities where social capital theory might be helpful. First, emergence here has been treated, mostly implicitly, as indicating the creation of new social capital. It would be useful to examine the literature on emergence, scattered through the disaster literature, to examine the outcome. Second, social capital theory might be useful in an analysis of the problems of external aid in disaster since such aid disrupts existing obligations, distorts informational potential, and imposes new authority patterns. Third, social capital theory is useful in the way it links microanalysis with macro-analysis. Most psychological studies of disaster victims have focused on psychodynamic causation with borrowed concepts, such as Post-Traumatic Stress Syndrome. Such theoretical approaches have been largely unsuccessful. Since social capital theory links the consequences of individual action to social resources, such a linkage holds the possibility of explaining individual “trauma” and individual resilience to disaster.

Conceptually, social capital theory can be useful in comparative studies, both at the community level and at a social level. It might be useful to examine communities that have persisted and grown in situations that are now seen as high risk, and have led to enduring disaster subcultures. More complex, of course, are historical and comparative studies. As Gregory Bankoff has suggested:

> Perhaps the whole notion of threat is so interwoven into the pattern of historical development and daily life that many aspects of culture perceived as distinctive have their origins, at least, partly in the need for collective action in the face of common dangers.[43]

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[1] See Russell R. Dynes, "Finding Order in Disorder: Continuities in the 9-11 Response," *International Journal of Mass Emergencies and Disasters* 21, no. 3 (2003): 9-23, and Edgar Jones, Robin Woolven, Bill Durodie and Simon Wessley, "Public Panic and Morale: Second World War Civilian Responses Re-examined in the Light of the Current Anti-terrorist Campaign," *Journal of Risk Research* 9, no. 1 (2006): 57-73.

[2] City of Oklahoma City, *Alfred P. Murrah Federal Building Bombing April 19, 1995, Final Report* (Stillwater, OK: Fire Protection Publications, Oklahoma State University, 1996).

[3] National Institute of Standards and Technology, "NIST and the World Trade Center" (May 26, 2006). Available at http://wtc.nist.gov/ .

[4] See, for example, Havidan Rodriquez, E.L. Quarantelli and Russell R. Dynes, eds., *Handbook of Disaster Research* (New York: Springer, 2006).

[5] James Coleman, *Foundations of Social Theory* (Cambridge, MA: Belknap Press, 1990).

[6] See E.L. Quarentelli, "Panic Behavior: Some Empirical Observations," in *Human Response to Tall Buildings* (Stroudsburg, PA: Dowden, Hutchinson and Ross, Inc., 1997), 336-350.

[7] Russell R. Dynes, *Organized Behavior in Disaster* (New York: Lexington Books, 1970). Republished in 1972 by the Disaster Research Center.

[8] Thomas Drabek, "Emergent Structures," in Russell Dynes, B. De Marchi and C. Pelanda, eds., *Sociology of Disaster: Contributions of Sociology to Disaster Research* (Milan: Franco Angeli, 1987), 262.

[9] James Coleman, "Community Disorganization," in Robert Merton and Robert Nisbet, eds., *Contemporary Social Problems* (New York: Harcourt Brace and World, 1961), 573-574.

[10] This process is described in more detail in Dynes, *Organized Behavior.*

[11] Russell R. Dynes, "The Concept of Role in Disaster Research," in Dynes, et al, eds., *Sociology of Disaster,* 71-102.

[12] The generic term "family" covers a variety of structural arrangements. As the term is used here, however, the emphasis is on the affective element in the relationship, which cuts across different structural arrangements.

[13] B.E. Aguirre, Dennis Wenger, Thomas A. Glass, Marceline Diaz-Murillo, and Gabriela Vigo, "The Social Organization of Search and Rescue: Evidence from the Guadalajara Gasoline Explosion," *International Journal of Mass Emergencies and Disasters* 13 (1995): 93-106.

[14] Michael Lechat, "Corporal Damage as Related to Building Structure and Design," *Center for Research on the Epidemiology of Disaster,* Catholic University (Belgium: Lovain, 1989).

[15] Ibid.

[16] Aguirre, et al., "Social Organization of Search and Rescue."

[17] Joseph Scanlon and Richard Hiscott, *Making the EMS System Fit the Plan: Individual Behavior and Organizational Response* (Ottawa: Emergency Communication Research Unit, Carleton University, 1990).

[18] Thomas Drabek, *Human System Response to Disaster* (New York: Springer-Verlag, 1986), 114.

[19] Anne Whyte, *Survey of Households Evacuated During the Mississauga Chlorine Gas Emergency, November 10-16, 1979* (Toronto: Emergency Planning Project, Institute for Environmental Studies, University of Toronto, 1980).

[20] Ronald W. Perry, "A Model of Evacuation Compliance Behavior," in Russell R. Dynes and Kathleen Tierney, eds., *Disasters, Collective Behavior, and Social Organization* (Newark, DE: University of Delaware Press), 85-98.

[21] The negative implications of obligations can be illustrated in societies in which they are structured along caste and religious lines. In a report concerning an earthquake in India (CNN.com, Feb. 8, 2001) it was indicated when relief groups arrived at Lakhond, Gujirat, they were shown six different tent cities occupied by different Hindu castes, untouchables, outside the caste system, and Muslims. The structuring

forced a competitive struggle among the various communities for resources, even though officially such caste divisions have been considered illegal for years. So social networks can enhance or impede the restoration of social order.

[22] Russell R. Dynes, E.L. Quarantelli, and Dennis Wenger, *The Organizational and Public Response to the September 1985 Earthquake in Mexico City, Mexico* (Newark: DE: Disaster Research Center, 1988).

[23] Colleen Fitzpatrick and Dennis Mileti, "Public Risk Communication," in Dynes and Tierney, eds., *Disasters, Collective Behavior, and Social Organizations,* 71-84.

[24]Ibid, 82.

[25] Perry, "A Model of Evacuation."

[26] Allan Barton*, Communities in Disaster: A Sociological Analysis of Collective Stress* (New York, Doubleday & Company, 1969).

[27] See E.L. Quarantelli, "The Nature and Conditions of Panic," *American Journal of Sociology* 60 (1954): 267-275, and Quarantelli, "Panic Behavior."

[28] This does not mean that looting may not be problematic in certain situations, frequently called disasters. For example, certain situations, such as urban riots and or ethnic conflict, are by their very nature conflict situations and the appropriation and destruction of property reflects that conflict. "Natural" disasters are consensus situations since there is agreement that property losses are "bad" and externally caused. (For further elaboration on this, see E. L. Quarantelli and Russell R. Dynes, "Dissensus and Consensus in Community Emergencies: Patterns of Looting and Property Norms," *Il Politico* 34 (1969): 276-291).

[29] E.L. Quarantelli and Russell Dynes, "Looting in Civil Disturbances: An Index of Social Change," *American Behavioral Scientist* 11 (1968): 7-10.

[30] Dennis Wenger, "DRC Studies of Community Functioning," in *Proceedings of the Japan-United States Disaster Research Seminar: Organizational and Community Responses to Disasters* (Newark, DE: Disaster Research Center, 1972), 39.

[31] Social capital as exemplified in organizations has not been explored extensively, but a major potential exists in the work of Gary Kreps. See *Social Structure in Disaster* (Newark, DE: University of Delaware Press, 1989) and Gary A. Kreps and Susan Bosworth, *Organizing, Role Enactment and Disaster* (Newark, DE: University of Delaware Press, 1994). Also Gary Webb, "Role Enactment in Disaster: Reconciling Structuralist and Interactionist Conceptions of Role," Ph. D. Dissertation, University of Delaware, 1998.

[32] See Thomas R. Forrest, "Group Emergence in Disasters," in E.L. Quarantelli, ed. *Disasters, Theory, and Research* (Beverly Hills, CA: Sage, 1978); Drabek, *Human System Response to Disaster*; Kreps, *Social Structure and Disaster*.

[33] Louis A. Zurcher, "Social Psychological Functions of Ephemeral Roles: A Disaster Work Crew" *Human Organizations* 27 (1969): 281-297.

[34] See Dynes, *Organized Behavior in Disaster.*

[35] Russell R. Dynes, "The Lisbon Earthquake of 1755: the First Modern Disaster," in Theodore E.D. Braun and John B. Radner, eds. *The Lisbon Earthquake of 1755: Representation and Reactions* (Oxford: Voltaire Foundation, 2005), 34-50.

[36] E.L. Quarantelli, "Disaster Management, Emergency Management and Civil Protection: The Historical Development of Organized Efforts to Plan for and Respond to Disaster," Preliminary Paper No. 301 (Newark, DE: Disaster Research Center, 2000), 13.

[37] Russell R. Dynes and E.L. Quarantelli, *The Role of Local Civil Defense in Disaster Planning* (Newark, DE: Disaster Research Center, 1977),17.

[38] Ibid., 39.

[39] For a more detailed discussion, see Thomas Drabek, "Evolution of Emergency Management," 3-29, and Gary Kreps, "Organizing for Emergency Management," 30-54, in Thomas Drabek and Gerald J. Hoetmer, eds., *Emergency Management: Principles and Practices for Local Government* (Washington: International City Managers Association, 1991). Also Richard T. Sylves, "Redesigning and Administrating Federal Emergency Management," in Richard T. Sylves and William Waugh, eds. *Disaster Management in the United States and Canada* (Springfield, IL: Charles C. Thomas Publisher, Ltd. 1996), 5-25.

[40] Department of Homeland Security, *National Response Plan* (Washington, DC: Government Printing Office, December 2004).

[41] E.L. Quarantelli, "Catastrophes are Different from Disasters: Some Implications for Crisis Planning and Managing Drawn from Katrina" (2005) and Russell R. Dynes and Havidan Rodriguez , "Finding and Framing Katrina: The Social Construction of Disaster" (2005). At http://understandingakatrina.ssrc.org/

[42] Kathleen Tierney, "Not Again: Recycling Disaster Myths in the Aftermath of 9/11," Special Session: Annual Meeting of the American Sociological Association, Chicago, Il. August 17, 2002, 11.

[43] Gregory Bankoff, "Rendering the World Unsafe: Vulnerability as Western Discourse," *Disasters* 35 (2001): 30.