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THE IMPORTANCE OF SOCIAL CAPITAL  
IN DISASTER RESPONSE

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# THE IMPORTANCE OF SOCIAL CAPITAL IN DISASTER RESPONSE

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In the United States, experience with disaster is always mediated through the mass communication system, even for those who are “victims.” On the evening news, breathless reporters provide audio and video confirmation of the hazards of social life. The focus is on injury and loss as well as predictions that things will get worse. In time, stories shift to associated maladies: inefficiency, callousness, corruption, hopelessness, and despair. All of this suggests that social life is so fragile that disasters create unsolvable problems. There is the implication that communities impacted by disaster will be permanently damaged.

On the other hand, almost every American community, at some point in their history, has survived disasters and continues to grow and thrive. Most of these disasters are now forgotten; others occasionally remembered by a local novelist or historian; a few even celebrated. But remembering may not be that important, understanding how conventional communities respond to disasters and survive is important.

In recent years, there has been a considerable effort in the development of policy directed to disaster “prevention.” Much of the research has been directed to understanding hazards- developing scales to measure seismic shaking, flood flow, wind

speed, etc. some of that knowledge has been used to develop new building techniques and new materials. More recently, some of that research has focused on the vulnerability of human populations, looking at land use, building patterns, and identifying special populations at risk. Also, there has been encouragement to build disaster resistant communities. (Geis, 2000: Tierney, 2001) Much of that effort consists of identifying local hazards and strengthening physical, especially infrastructure and building codes while little attention has been given to possible changes in the social systems of these communities. In other words, there has been little attention to make social systems more resilient. The effort has focused on understanding how hazards might be changed, reduced, or avoided. The effort has been on how physical capital- infrastructure and housing might be constructed. At the same time, there has been little attention given to how social systems might be used and modified to deal with disaster.

### The Idea of Special Capital

Insight into the way communities respond to disaster might be obtained utilizing the concept of social capital. Adding to the conventional economic view of the importance of tools, physical capital, some researchers have argued the importance of human capital- that is how educated, trained, and healthy individuals create effective economic growth. More recently, there has been increasing attention given to the concept of social capital- a term that encompasses the norms and networks that facilitate collective action. The concept of social capital has been utilized in the analysis of many different collective action problems, including family issues, schooling and education, work and organizations, democracy and governance, as well as development issues. (For

examples of such research see Woolcock, 1998, footnote 20) To my knowledge, the concept has not been applied to disaster response, which is a classic situation involving collective action for mutual benefit. <sup>i</sup>

The intellectual roots of the concept are many and varied. (See Woolcock 1998: Portes, 1998: Lin 2001) At this point, social capital theory is somewhat diverse in the emphasis different theorists give it. There is consensus that social capital consists of resources embedded in social networks and social structure, which can be mobilized by actors. There are differences in what to include in this concept. First, some focus entirely on social networks: others like Bourdieu emphasize the production of “cultural capital” by group members. (1983/1986) A second issue related to the first on how social capital should be measured. Now, there are measures of physical capital but none without considerable conceptual issues. A third issue is the choice of the dependant variable. For example, Putman’s (1993) treatment of social capital is related to the importance civic involvement in creating good government and his idea of the historic decline in civic involvement. Other studies focus on issues of status attainment and job search. <sup>ii</sup>

The intent here is not to critique the concept but to use it in exploring disaster response at the community level. Obviously, there will be differences in social capital among different societies and within the same society. Those differences need to be explored if the concept is useful at a more general level.

Here, however, the theoretical concepts will be derived from James Coleman. (1990) His discussion of social capital occurs within the context of a more inclusive social theory which identifies the central elements of the historic transformation of social life, especially the decline of “primordial” institutions as the central element of social

organization and the replacement of these institutions by purposely constructed organizations. (Coleman, 1993)

Social capital refers to the aspects of social structure, which are of value to social actors as resources that can be mobilized in pursuit of their interests. Social capital is not located in the actors themselves as with human capital. Instead it is located in the relationships and personnel networks between and among social actors. Social capital appears in a variety of forms that have two common elements: (1) Social capital appears as an aspect of social structure and (2) Actors are able to use social capital as a resource to achieve their goals. As such, the concept can be used to account for different outcomes of individual efforts. It is a resource embedded in the social structure, which provides assets for individual action. As such the value of the concept resides in accounting for different outcomes for individual efforts and how resources can be combined with other resources to account for different outcomes for social systems. <sup>iii</sup>

As Coleman (1990 p.304) suggests: physical capital is created in making changes in materials so as to form tools that facilitate production; human capital is created by changing persons to give them skills and capabilities, but social capital is created when the relationships among persons change in ways that facilitate action. Physical capital is wholly tangible embedded in observable forms. Human capital is less tangible embedded in skills and knowledge. But social capital is even less tangible since it is embedded in relations among persons.

Coleman (1990) identifies six forms of social capital: obligations and expectations, informational potential, norms and effective sanctions, authority relations, appropriable social organizations, and intentional organizations.

Obligations and Expectations: Any social system relies heavily on reciprocal actions and rates obligations and expectations on the part of participants. In particular, certain elements are critical to this form of social capital- the level of trustworthiness of the environment, which anticipates that the obligations will be repaid, and the actual extent of the obligations. Differences in social structures with respect to the extent of outstanding obligations arise for different reasons- trustworthiness that lead obligations to be repaid, the actual needs that persons have for help; the existence of other sources of aid, the degree of affluence, cultural differences in the tendency to lend aid and seek aid, etc. For social capital to have value, there must be trust that the resources will be there to be drawn on when needed. Too, the extent of outstanding obligations within a system can be a measure of its interconnectedness as members are obligated to one another. This connectedness also increases the resources available to each member.

Information Potential: Information is important to provide a basis for action. One means by which information can be obtained is to use social relationships that are maintained for other purposes. By interacting with informed members, individuals can increase their knowledge without having to obtain that information directly.

Norms and Effective Sanctions: Norms support and provide rewards for specific behavior. Norms that encourage the subjugation of self-interest to the needs of the community are an especially powerful form of social capital. It facilitates certain actions and constrains others.

Authority Relations: Within groups organized to accomplish specific goals, a leader is often chosen and given the right to make decisions and speak for the group. In this transfer to one individual, the leader has access to an extensive network of social

capital, which amplifies the social capital of individual members. In certain situations, the vesting of leadership can be given to a charismatic figure. In any case, social capital is found in grassroots organizations and political action groups.

Appropriable Social Organization: Social organizations are usually created for a particular purpose and after that purpose has been resolved, the organization may redefine their goals. Thus an organization developed for one purpose can be used for other purposes- sometimes for short-term purposes, and at other times, for longer-term transformations.

Intentional Organizations: Developing social organization requires investment in designing the structure of obligations and expectations, responsibility, authority, norms, and sanctions. In creating that, it not only advances the interests of those who invest in it, but it also creates a public good benefiting others who do not invest directly.

#### DISASTERS- DEFINITION AND THE RESEARCH BASE

In order to focus the discussion, it is always necessary to sort out the various ways to define “disaster.” First is a conventional media definition, which centers on the destruction of human capital. One source suggests that:

From 1975 to 1994, natural hazards killed over 24,000 people and injured 100,000 in the United States and its Territories. About one quarter of the deaths and half the injuries resulted from events that society would label as disasters. (Mileti, 1999, p. 4)

In reference to this conventional way of defining disaster, it is important to remember that, in spite of the population growth of the U.S., there have been only three disasters in history which have exceeded 1,000 casualties, all of them happening over 100 years ago.

First was the Peshtigo, Wisconsin forest fire in October 1871 when a fire consumed 1,250,000 acres of timberland in a sparsely populated area, but two small lumber towns were destroyed perhaps killing 1,500 people. In May 1889, a flood affected Johnstown, Pa., then a community of about 30,000, and several other small towns that were in the path of water released by a dam failure. The death toll was estimated at 2,200 people. In September 1900, a hurricane hit Galveston, a community then of 37,000, the fourth largest city in Texas. Estimates of the death toll ranged upward from 3,000. It is important to note that with the exception of Peshtigo, over 80 percent of the residents of these other communities survived.

A second way to view disaster is to focus on the destruction of physical capital. Again, an estimate of those losses in the U.S. suggest:

A conservative estimate of the total dollar losses during the past 2 decades is \$500 billion. (In 1994 dollars) More than 80 percent of these costs stemmed from climatological events which around 10 percent resulted from earthquakes and volcanoes. Only 17 percent were insured. (Mileti, 1999, p.4-5)

A third way to view disaster is to focus on social capital and to see disaster as a threat to existing capital. For example, the following definition reflects that emphasis:

A disaster is normatively defined situation in a community when extraordinary efforts are taken to protect and benefit some social resource whose existence is perceived as threatened. (Dynes, 1998, p. 113)



In terms of the discussion here, the focus will be on the community as the social system. This concern also is on what are called developed societies, especially the United States. Developing societies present a series of issues, which will not be discussed here. In part, such a great concentration is dictated by the scope of existing research to be analyzed. Also the concern here will be on the response phase. It has become conventional to categorize disaster along a time dimension- preparedness, response, recovery, and mitigation. The most difficult to study is the response, primarily because the phase is short and often unexpected. This makes them difficult for “planned” research. Much research on response has been opportunistic and lack cumulative continuity necessary to develop generalizations. Too, some “response” research is done months and years later which raises questions about the nature of recall and perhaps, more importantly, misses the emergent qualities of the response.

The best research on disaster response in the United States was done at the Disaster Research Center in the late 1960’s where field teams were able to quickly initiate research and a number of different communities were studied. (See Quarantelli 1997 for a description of the field work and methodology used in those studies.) Much of that research has been reported and published. In Organized Behavior in Disaster (Dynes, 1970), conceptualizations from that fieldwork are recorded, in terms of the theoretical ideas which guided the research at that time. 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.

Most disaster research has been fixated on the destruction of physical capital- that standard media picture of damaged houses. Secondly, some attention has been given to

the destruction of human capital- search and rescue and emergency room. Little attention is given to losses in social capital. It is less tangible and thus more difficult to present to the media. Most importantly, of all the forms of capital, it is less damaged and less affected. Consequently, during the emergency period, it is the form of capital that serves as the primary base for a community response. In addition, social capital is the only form of capital which is renewed and enhanced during the emergency period.

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. That was the phenomena called emergence. As 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. (Drabek, 1987, p. 262)

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” to meet new problems created by the disaster occasion. This view is contrary to most media accounts of disaster, which portrays community structure as being fragile, unable to deal with disaster problems and often implicitly suggesting that “survival” is dependent on external aid. As Coleman (1961) 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 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.

It is the intent here to examine the research done on disaster response, primarily in the United States, in the context of the six dimensions of social capital, which Coleman identifies. While the cited research was not initially guided by those 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 values- work, family, education, and leisure. A disaster situation changes that rather dramatically since now community resources may not be sufficient to pursue all values. Taking two illustrations, while health and medical issues are always important, the disaster situation increases that priority centering on attention

to disaster “victims.” On the other hand, education, normally given a high priority, become less important so school buildings and school personnel can be utilized if somehow related to caring for victims. In a sense, the pursuit of certain activities is reordered and obligations are reordered as to how they become relevant to disaster impact. This process, designated as the development of an emergency consensus, is described in more detail in Dynes. (1970, ch.10) But the process provides an 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. Most center around “housekeeping” norms relating to maintenance of property, the 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, it may involve becoming a member of a volunteer fire department and providing goods and labor for events that support such activities. In most of these cases, the costs of participation are minimal and even enjoyable. Disasters, however, both create unknown problems, some even life threatening, and provide the opportunity for stronger identification with the community on part of its residents. In effect, then the obligations of citizenship are enhanced and the focus of activity are clarified. This provides guidance in sorting out the appropriate role behavior in the emergency.

Since persons have multiple roles, they have multiple obligations and expectations. In sudden impact situations, it is likely that the initial set of obligations are conditioned by their role at the time- at home, their family role, or at work- their work

role. In some popular discussions of disaster, considerable interest has centered on the possibilities of role conflict with the result that persons were forced to choose between family role obligations and disaster assistance. The general assumption was that persons would abandon 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 situation often provides guidance on the importance of certain roles, (Dynes, 198) obligations and the less importance of other role obligations.

Individuals in a disaster context have the potentiality of playing many different roles- family member, neighbor, work role, and for everyone, within the community the citizenship role.<sup>iv</sup> For example, if a person engages in search and rescue activity, it might be done in terms of their obligation or 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” however, has a cadre of people who have obligations to help them, other family members, neighbors, workmates, or any other members of the impacted community.

The importance of obligations and expectations is reflected in search and rescue. As Aguirre *et al* (1995) reported, during the first period after disaster impact, search and rescue efforts are carried on primarily by other “victims” in the area and in this case, they seek and extract victims and take them to where they can receive medical treatment. When emergency medical personnel do arrive on the scene, they have to use the knowledge of neighbors to locate remaining victims and the persons continue to help in all phases of the rescue operation. Much of the rescue operation will be terminated formal rescuers arrive. LeChat (1989) reported that 97 percent of the injured victims entrapped

by the 1980 Italian earthquake were evacuated and transported to medical care were rescued by bare hands and shovels, not heavy equipment.

The importance of social networks to illustrate, in this case, since the proportion of victims rescued who were trapped was 46 percent in simple households, as compared to 61 percent in multiple households. People living in single households had a death rate 2.4 times higher than those living in households with one or more of the household present. LeChat suggests that in view of the usual delay in the arrival of external rescue teams and elaborate rescue equipment, there is a need in earthquake prone areas of educating the local communities in rescue activities. This is particularly true since, the longer a person is trapped, the higher the mortality rate.

In an excellent study of search and rescue after a gasoline explosion in Guadalajara, Mexico, in which victims who had been buried alive and rescuers near them, Aguirre *et al* (1995) comments on these findings:

People did not participate in the search and rescue efforts at random. Instead, their participation was 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.

Even the decision to seek medical help on the part of the victims is not necessarily obvious. In a study of a sample of tornado victims in Edmonton, Alberta, Scanlon and Hiscott (1990) indicated that while 15.3 percent of the victims made that decision themselves, but 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 45 percent of the victims were provided transportation to medical attention, by family, friends, and others, about the same percentage was transported by official means- ambulance, in the car, or a casualty bus.

In other contexts, family obligations continue to be important. Drabek (1986, p. 114) comments: "When people evacuate, they commonly do 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." When families evacuate, where do they go? Some studies show that up to 85 percent prefer to go to relatives and friends, not to public shelters. (Whyte, 1980) And that preference to stay with friends and relatives is reinforced by invitations offered by kin. In a study of the May 1980 eruption of Mt. Saint Helens indicated that almost 35 percent of the evacuees were contacted first by someone at their evacuation destination. (Perry ET al, 1981) All of this suggests that behavior

during the evacuation phase is prefigured by normal daily routines and their action choices are guided by obligations that existed prior to the disaster situation.<sup>v</sup>

Too, in a study of the 1985 Mexico City Earthquake, which used a sample of the entire city population, 10 percent of respondents indicated that they had left their homes the year after the earthquake and 86 percent went to relatives and another 5 percent went to friends. 11.2 percent indicated that they had temporarily sheltered relatives or friends in their own homes sometime during the year after the earthquake. (Dynes, Quarantelli, Wenger, 1998)

While the previous illustrations have emphasized 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 which 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 helping activity. Media descriptions 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, and at times, it is considered an argument for the need for external help. In the Mexico City study just mentioned (Dynes, Quarantelli, Wenger, 1988), there was the opportunity to ascertain the extent of volunteering and the ways that they had become involved. About ten percent of the sample indicated that they had volunteered immediately after the earthquake. Such a percentage would seem small, but with the population base of Mexico City- one of the largest urban areas in the world, this



percentage would translate into over 2,000,000 persons, certainly a significant volunteer response.

Most volunteers either engaged in search and rescue, or they helped in the procurement and processing of supplies. Nearly half indicated that they had worked four days or longer, and almost 18 percent had worked 10 days or more. In terms of daily time, 45 percent said they had worked an average of 9 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, by persons who had no direct family or kin ties. This significant response of volunteer activity occurred in the context of estimates that the loss was less than two percent of the housing stock in the city. Among our sample, 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 as to 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 evacuate, or receive assistance from others in the form of shelter. Conversely, existing social networks provide effective search and rescue removing victims and having them seek medical help 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 housing assistance. These same

social networks are the channels that motivate volunteers to provide labor for important disaster related tasks which compensate 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 about the emergency is the increased need for information and the actual increase in information. That increase, however, 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 so that they might take some preventative action. Again, social networks provide the channels whereby individuals develop a perception of risk and can be motivated to take some type of preventative action. As illustrations here, both warning and evacuation will be discussed in the context of information potential. At times, in certain situations, “officials” have been reluctant to issue warnings based on their assumption that “people” would panic, and in addition, evacuation has at times been discussed as a failure of will on the part of citizens for trying to avoid some threat. Fortunately, those assumptions are increasingly rare, but there are still troublesome assumptions by 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 TV or listen to the radio to hear the official warning and consequently they will take official action. In contrast with this view,

research based descriptions of the warning process and of effective evacuation underscore how the “public information” imagery is likely to fail and how social capital is an important element in effective action.

In examining the research base on warning, Fitzpatrick and Mileti (1994) have outlined the process in five different steps- hears, understands, believes, personalizes, and decides/responds. Each of the stages are interactive, not dependent on individualistic mental stages. Others 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 can assist in discussing appropriate action. Research has shown that if protective action is not taken, then there is an effort to seek additional information. That is, the process is reiterative. 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. (1994, p. 82)

Perry (1994) has developed a model to understand how people comply with an evacuation plan in a sample of three different disaster models. He underscored the importance of the social nature of the warning process, especially emphasizing the importance of warning source credibility, the way in which warnings are confirmed by other people and also gives consideration of the content of warning messages. He noted “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 added, “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). Perry also included family context in his model since evacuation is not individualistic but families evacuate as a group or when missing members, they are determined to be safe, although in his 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 Aguirre (1988) 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 29 known deaths from the impact of the tornado. The community, composed almost exclusively of residents of Mexican-American descent was part of a geographically large county and 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 failure was the fact that almost the entire community watched Univision, the national Spanish 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 immediately prior to the tornado provided few weather clues of the impending danger. The result was that the population of Saragosa did not receive 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 undercut 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 increasing diversity in the U.S. population and both on TV and on radio, there are increasing number of different audiences, reflecting quite different social networks. Going back 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 (1963) suggested a series of relationships between a disaster event and the emergence of altruistic behavior which continues to have considerable face validity. 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 will be 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. They are relatively free of ideological disputes about cause which 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 which provide normative support for helping behavior, the development of an emergency consensus mentioned earlier provide a ranking of values and suggest that care for victims and the restoration of routine community services should assume high priority while education, leisure, non-critical work efforts can be set aside until the values of higher priority are achieved. In addition to the effort directed toward high priority values, 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 the 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 resanctioned 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 them, accentuated during the emergency period, suggest that panic and looting are frequent and problematic in these situations. Research suggests otherwise, although the review here centers on conclusions.

Panic is a description of 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, who perceived that they are being entrapped and they are isolated from others- feelings of social isolation. These conditions are rarely found in disaster situations. (See Quarantelli 1954, 1977) 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 “don’t panic” is sometimes an expression of “macho” ideology, and at other times, it is an official message to encourage behavior which an agency might decide rather than letting individuals decide for themselves, contrary to the “official” plan. In any case, such admonitions have little affect as a guide to behavior which 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, based on the fear that “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 in disasters. Again, while the concept of looting has the connotation of the consequences of an invading army, evidence suggests that looting is a rare occurrence in natural disasters, but “persist” in the absence of evidence.<sup>vi</sup> The primary explanation for this discontinuity between popular conceptions and the absence of evidence for the behavior centers on appropriate norms about the proper use of community resources after disaster impact.

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 and the concern for property norms are reflected in the “fear” of looting. In this, the fear maybe 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. (Quarantelli and Dynes, 1969)

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 “conclusions”- that people behave badly in disaster as symbolic sanctions for “appropriate” behavior in disaster- the recommended etiquette for such unusual circumstances. Such concerns are symbolic reminders, not effective sanctions, to prevent such 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 in disaster does not mean that they are, in fact, problematic, but disaster provides the opportunity to celebrate virtues of rational behavior and respect for property.

Finally, there are two special circumstances that are worthy of note. First, a number of researchers have commented on the development of “disaster subcultures”. . For example, 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.” (1972: 39)

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 behavior 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 by 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 time. These may involve a responsibility to monitor particular hazards, planning for work force reporting, and shift extension and mechanisms for communicated 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 pre-disaster structure of those organization. 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, stories which underscore appropriate behavior for the situation. The emphasis and the spread of emergency planning has 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 of social disorganization, primarily from the loss of authority. Too, that conventional view of the loss of authority 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 it 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. For example, 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. For example, a wife may have responsibilities to open and maintain a shelter operation for evacuees, while her husband and her children deal with the shelter’s day to day maintenance, also children can be moved out of their bedrooms to house relative families whose houses have been damaged. These are all allocative decisions of how to use family resources that are made within the usual family authority structure and through the usual decision processes. None of those decisions can be “mandated” by the community and none of them are planned or even anticipated, but they occur and constitute social capital. None of the activities violate or change 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 come to be known as the DRC typology.

Figure I

DRC Typology

Tasks

		Regular	Non-regular
Structure	Old	Established Type I	Extending Type III
	New	Expanding Type II	Emergent IV

These four types 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.<sup>vii</sup>

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 which have existed prior to their response. Type II organizations continue with the same authority relations except its size is expanded, but with volunteers who have had previous involvement in the organization so that these volunteers have had 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. (See Forrest, 1974; Drabek, 1986; Kreps, 1989) One of the most complete descriptions of a work crew that emerged in the aftermath of a tornado was Louis Zurcher's discussion of the social psychological functions of ephemeral roles. (Zurcher, 1968) 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. In other words, his description focused on the process of differentiation, and the work groups dissolved prior to any attempt to institutionalize and insure their continuity.

The pattern of involvement indicates that authority relations within organizations provide social capital necessary for the overall emergency response. Authority relations do not have to be reworked for the disaster context and the continuity to the pre-disaster authority context is usually an easy transition. Emergent groups, however, constitute a newly created form of social capital in dealing with newly created and unanticipated problems. These groups tend to be task oriented and the relationships within the group 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 within the media, that there is confusion and disorganization within the community authority structure immediately after disaster impact. Such a perception, however, more accurately describes a “natural” process whereby the community is able to achieve coordination of the many necessary tasks, some which are new to previous community experience. In the early stages of disaster impact, there is uncertainty as to what has happened combined by an 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, give a more inclusive view. Some may over mobilize, and have members wanting to do “something”. Others may find it confusing that volunteers are already doing tasks that organizations see as their exclusive province. Other organizations may find that they cannot “work” until another organization finishes its’ tasks. For example, one cannot transport injured to the hospital until roads are cleared- what some call sequential interdependence. The problems- troublesome at the time- begins 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- which has come to terms with priorities. (For greater details on this process, see Dynes, 1970)

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 new and 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 have roles more important than their pre-disaster status, but the basic structure 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 on 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 normative in the pre-disaster situation. In any case, the authority structure 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 is reflected in the emergency consensus, is that not only are certain tasks given high priority, but also other activities have low priority to the overall emergency needs. This means that many community members can be allocated disaster tasks, this can greatly increase the available work force. Two forms of this reallocation of social capital are more common. The first form is what has been called Expanding Organizations (Type II) which is



designed to utilize volunteers who have previous contact with the organization. (See Figure I)

These individuals express their helping behavior through conventional social organization. They are members or participants in an organization that has emergency responsibility in its charter and so has developed 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 of 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. For example, 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. For example, 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 is found in what has been called Extending Organizations (Type III), which can best be described as a group volunteer, a member of an organization that

has no specific emergency related purpose. (See Figure I) However, such groups may 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 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 that focus group activity on new, disaster-related tasks emerge.

Examples in this category include mobilization of a scout troop by the scoutmaster to act as messengers for an emergency operation center, utilization of a church building as a shelter staffed with church members or a parochial school with the parent-teacher organization as staff, and assumption of the responsibility for feeding disaster workers by a Veterans of Foreign Wars post. 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 follows lines of already established social relationships. These are not spontaneous, random acts of generosity on the part of isolated individuals but are extensions of pre-disaster relationships.

#### Intentional Social Organization

One can find, in 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 so that when the immediate tasks were finished

so was the governmental responsibility. However, that has changed. Quarantelli using the broader term of civil protection suggests:

As we enter the 21<sup>st</sup> 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. (2000: 13)

In the United States, there developed a bifurcated system 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 1960's 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 (Dynes and Quarantelli 1977: 17 italics removed)

Then the DRC report went on to say that in the decade of the 1970's, the research showed that the local community civil defense offices vary considerable in the scope of the hazards with which they are concerned:

Some are completely focused on planning and the associated task 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. (Dynes and Quarantelli 1977: 39)

During the 60's and 70's, there were new concepts that emerged. There was considerable discussion about the idea of "dual use"- 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. (For a more detailed description see Drabek, 1991; Kreps, 1991; and Sylves, 1996)

It is difficult to accurately track how the idea of comprehensive emergency management is now reflected in local government. In 1982, the International City Managers Association did a sample survey of how emergencies were handled in local governments. The survey suggests that in cities, the city manager has responsibility (23 percent), a full time emergency manager (19 percent), and the fire chief (16 percent) were the other options. In counties, full time emergency managers (44 percent) or part time coordinators (33 percent) has that responsibility. In general, the survey showed that the larger the city or county, the more likely it was to have personnel dedicated to emergency

management activities. (Reported in Drabek, 1991: Ch.1) While more recent data are unavailable, it seems reasonable to suggest, in the United States at least, the emergency management function has been institutionalized as a part of local governmental units. The specific administrative location will vary. In some instances, the emergency management office is independent, reporting to the chief political officer and that office has general responsibility for emergency planning and with specific responsibility for the operation of an Emergency Operations Center (EOC) during emergencies. In other instances, it may be a position in one of the administrative units, such as the fire department, which has broad municipal responsibility. The more important point is that the function of emergency management has been added to other traditional municipal services.

Along with the incorporation of emergency management into traditional municipal services, there has been a modification and improvement in the quality of the personnel filling the emergency management position. Previously, a major qualification for emergency managers was some extended service in the military, with little consideration for the type or quality of that military experience. Now there are trends which indicate the increasing professionalization of that position. First there has been increasing material on emergency management built into the content of programs in public administration, which provide background for many going into local government. Second, there are specialized undergraduate and graduate programs in emergency management which are growing in American institutions of higher education. Third, there are course materials and text materials which are available, many of those materials generated by FEMA. Fourth, there are in service training programs available, some sponsored by FEMA at their Emergency Management Institute and distance learning

opportunities via computer assisted programs. Fifth, there is the development of “professional” associations such as the National Coordinating Council of Emergency Managers. Sixth, there are certification programs that both encourage and reward individuals who make the effort to increase their knowledge and skills. Thus, there has been the increased professionalization of the role of emergency managers and the gradual institutionalization of that function at all levels of government. These developments constitute important aspects of social capital.

#### IMPLICATIONS OF SOCIAL CAPITAL IN DISASTER RESPONSE

A major implication of the argument, which is made here for the importance of social capital, is in part based on the limited success with past efforts to mitigate risks. This limited success has been true whether the effort has been directed toward individuals or local communities to institute mitigation projects. In general, mitigation efforts have proceeded along two major avenues. First, it is assumed that the reason people do not make an effort is because they are unaware of the threat or because they lack good information (knowledge) about the risks. Thus, increasing awareness and information will result in appropriate mitigative behavior. A second theme has been that even if citizens are not aware or knowledgeable, local political leaders should be and should take appropriate mitigation action for the good of the local community.

On the first theme, Turner et al (1985), in interviewing 1450 people in southern California, started their interview asking the three most important problems facing the local residents. In that context, given only three choices, only 35 people, or 2.4 percent mentioned earthquakes. On the second theme, in a sample of 20 states and 100 local communities, Rossi et al (1982), surveyed more than 2000 political elites picked from

sectors of the state and local power structure related to the management of environmental risk. These “elites” represented communities with perhaps three quarters of the U. S. population living at risk for floods, tornadoes, hurricanes, and earthquakes. Each respondent was asked to rate the seriousness of 19 potential state and local problems, including five environmental problems. The more serious problems (in 1977) were considered to be inflation, welfare costs, unemployment, and crime, and some of the least serious were floods, hurricanes, tornadoes, and earthquakes. In aggregate, pornography was seen as a more serious problem than any natural hazard. As a final point, even if mitigation policies are locally enacted, this does not mean that the policies will be enforced. They may be selectively used or in certain circumstances have unanticipated negative consequences. For example, added cost assessed for building in flood plains might initially discourage builders, but increased demand for housing might make such buildings economically feasible. Too, a recent change in New York City building codes demand increased seismic safety standards when the renovation involves ten percent of the building. When implemented many permits fell to 9 percent to avoid this stipulation. Comerio’s analysis (1990) of the consequence of requiring non reinforced concrete buildings to be retrofitted to higher seismic standards in San Francisco pointed out that many of these buildings were in Chinatown and were occupied by older, poorer ethnic minorities, and the increased cost of retrofitting combined with problems in getting new financing for such buildings might cause owners to abandon the buildings. There was also no available supply of alternative housing for current renters.

Compounding the difficulties of developing effective mitigation programs is the fact that internal migration in the United States shows continual growth in areas such as

the West Coast where seismic risk is high and to Southern coastal areas where hurricanes continue to provide a threat. In certain ways, one can argue that the most desirable areas to live are those which provide the greatest risk for “natural” disasters. In addition, the continuing growth of urban areas provide the opportunity for greater exposure to industrial and other technological threats. This suggests that the determination of measures of objective risk of hazards and their geographic location is irrelevant in determining where people live and how they might be exposed to those hazards. (For a slightly more optimistic view of mitigation, see Dynes, 1993; For the evaluation of a complex program of mitigation which tries to mobilize community support for mitigation, see Tierney, 2001)

The lack of individual and collective enthusiasm for hazard mitigation might seem more problematic than it is, if one focuses on the social consequences created by hazards. The relationship between physical damage, caused by hazards, and the social consequences is rather tenuous. For example, the 1988 earthquake in Armenia measured 6.9 on the Richter Scale and killed approximately 25,000, injured more than 31,000, and left more than 514,000 homeless. The next year, an earthquake of much greater magnitude (7.1) occurred in the United States: the Loma Prieta Earthquake killed 62, injured 3,757, and left more than 12,000 homeless. The difference in the consequences has little to do with intensity of the hazard, but with the nature of the available social capital.<sup>viii</sup>

The following implications of the importance of social capital are based on assumptions previously discussed.



1. There is a lack of relationship between the presence of hazards and the consequences of disaster. Hazards are a geophysical concept; disaster is a social concept. They are not interchangeable terms.
2. In general, attempts to mitigate the consequences of hazards have been quite disappointing. To most persons, risk is not a major consideration of where to work or live. The determination of objective risk by scientific means is not a significant element in the subjective risk arrived at by the public. Efforts to mitigate objective risks have minimum effect on individual choices and on local community decision-making. Even effective attempts of mitigation will have little effect on the social consequences of disaster.

Given these conclusions, resources now allocated to mitigation could be used more effectively in strengthening the social capital of a community. In other words, there is the problem of misplaced concreteness in dealing with hazards- since they are “things” which have a sense of reality and a sense of causality to them. In American society, an attempt to mitigate does create the sense that doing something, especially if it involves “new” technology will provide a solution. The argument here is that in strengthening social capital, while less tangible, will have a greater payoff in reducing the social consequences of disaster. Consequently, it is useful to redefine the conventional stages of disaster in these terms:

Preparedness- enhancement of social capital

Response- utilization of social capital in problematic situations

Recovery- reestablishment of social capital

Mitigation- reducing vulnerability of social capital

Before identifying ways to enhance social capital, one other consideration needs to be discussed briefly. That is the consequence of the imagery about disaster on social life that is embedded in a conventional view of disaster planning centering on command and control. This view has military and wartime roots. It is difficult to know how widespread this concept is in contemporary America. In its most extreme form, it implies that disasters are destructive of local social capital. Since residents are traumatized and become dependent, local organizations lose their effectiveness. It assumes “normal” authority is fractured or irrelevant to newly created disaster problems, but authority is needed to tell people what they need to do. It is mentioned here only because many of the suggestions following on how strengthening social capital will contradict command and control “principles.” (See Dynes, 1994)

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

- (i) 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.
- (ii) 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 and, in fact, probably decrease.

- (iii) 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 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.
- (iv) 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.
- (v) 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 part of the definitional process. Thus, messages and channels of communication need to be increased rather than restricted.
- (vi) Rather than seeing self-initiated helping action as disruptive because such actions were not “planned for”, it is more appropriate to see planned action as supplemental to self-initiated actions.

(vii) Rather than attempting to centralize authority, it is more appropriate to structure a coordination model. The fact emergencies have implications for many different segments of social life, each with their own pre-existing patterns of authority and each with the necessity for simultaneous action and autonomous decision-making, indicates it is impossible to create a centralized authority system and that it is probably not necessary. The centralization of authority is usually predicated on the image of disintegration of social life. The evidence of viability of behavior and the adaptability of traditional structures suggest that authority is more of a problem in the minds of planners than a problem of life under emergency conditions. Planning should focus on coordination and the development of communication 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 in 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. Appropriate 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 organizational locations, such as churches, schools, some civic groups, might develop skills in mass feeding operation, shelters, information centers, etc. Local contractors might be encouraged to have meetings discussing the latest information of search and rescue in high-rise building collapse. Certain community skills, such as knowledge of first aid might be encourages 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 that locals are incompetent and incapable or that 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 those interpersonal channels should be used as well as the mass media. Citizens are at work, school, engaged in many different collective activities and are not attached to the mass media. Also remember that members of minority and immigrant communities may not have the same communication networks that the “official” community has. Too, some citizens may be socially isolated because of disabilities, age, illness, and

geographical location. Attempts to reach those persons 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. Too, encouragement should be continued for training activities leading to the professionalization of the emergency manager. For this, those tasks are best supported at a national level. Collectively, such efforts should become an integral part of municipal services and that 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 functions of the police, fire, ambulance, and other emergency services.
8. The aim of emergency planning is to move back the “normal” as quickly as possible. This means the restoration of commerce, the reopening of schools, and the reinstatement 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, but it suggests that they be approached with humility rather than enthusiasm. Mitigation efforts can be effective if adapted to local community practices.

## LOOKING BACK AND FORTH

This 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. Evaluating the success of such an endeavor is difficult since the initial idea seemed plausible. The concept had the advantage of moving away from a current preoccupation with hazards as a cause and mitigation as a solution to disasters. It has the advantage of shifting attention away from making the environment sustainable to how social systems can function in any environment. The concept has the advantage of seeing social systems as active resources, not passive victims. It has the advantage of 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, not just a focus on the destruction of physical capital. In those ways, the concept shows considerable promise.

There are unresolved issues. One primary issue that Coleman questioned:

Whether social capital will come to be as useful a quantitative concept in social science as are the concepts of financial capital, physical capital, and human capital remains to be seen; its current value lies primarily in its usefulness for quantitative analyses of social systems and for those quantitative analyses that employ qualitative indicators (1990: p.304-305)

Much of the present empirical direction of social capital theory has centered on the analysis of social networks in sub-groups within a society and has downplayed the



normative aspects of the theory. (An exception is Lin, 2001: Chapters 11 and 12, which moves into institutional analysis and social change.)

Moving back to disaster related topics; there are a number of possibilities where social capital theory might be helpful. First, emergence here was 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 since it links microanalysis with macro-analysis. Now, most psychological studies of disaster victims have focused on psychodynamic causation with borrowed concepts, such as Posttraumatic Stress Syndrome. Such theoretical approaches have been very unsuccessful. Since social capital theory link 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 lead to enduring disaster subcultures. More complex, of course are historical and comparative studies. As 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. (2001, p. 30)

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<sup>i</sup> Social capital is mentioned in one of the three sustainable hazard scenarios in Disaster By Design (Mileti, 1999, pp. 46-49), but it is used only to caution the effects of a potential hurricane on the lower income population in Miami and in Florida.

<sup>ii</sup> The flexibility of the concept sometimes leads to a selective analysis and to prescriptive presentations. See, for example, Robert Putman, Making Democracy Work, Princeton, University Press, 1993; Francis Fukuyama, The Great Disruption, The Free Press, 1997; Dan Cohen and Laurence Prusak, In Good Company: How Social Capital Makes Organizations Work, Harvard Business School Press, 2001. Much of the current attempts to use the concept have focused on the analysis of social networks and have slighted the normative aspects of the concept. On the other hand, there are the beginnings of attempts to build a more general theory which would have broader application. (See Lin, 2001)

<sup>iii</sup> Coleman (1990) identifies certain factors that can increase or diminish social capital. A high degree of closure in a social network strengthens its ability to engender norms and effective sanctions. It is also important in mutual trust. Lower closure would reduce effective norms and trust. The stability of a social structure is social capital. Organizations that are dependent on specific individuals are less stable than those who rely on positions which can be fulfilled by different individuals. Ideology can increase social capital by influencing individuals to act in the interest of the whole rather than in own self-interest. Religious and other altruistic ideologies would be an example. By contrast, individualism can hinder the generation of social capital. Other factors affecting social capital could be affluence and the amount of official aid. Too, social capital must be maintained since it can depreciate and must be renewed. While, in general, social capital is treated as having positive functions, it can also have negative ones. Solidarity can contribute to exclusion, restriction of individual freedom and creativity, and oppressive conformity as well as authoritarian leadership. For example, see Portes. (1998, p. 15)

<sup>iv</sup> The generic term “family” covers a variety of structural arrangements. However, as the term is used here, the emphasis is on the affective element in the relationship, which cuts across different structural arrangements.

<sup>v</sup> 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, Gujrat, 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.

<sup>vi</sup> 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, 1969)

<sup>vii</sup> 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, (University of Delaware Press, 1989) and Gary A. Kreps and Susan Bosworth, Organizing, Role Enactment and Disaster (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.

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<sup>viii</sup> Statistical comparisons simplify reality. Many of the casualties came from a housing collapse due to the faulty construction of 11 story apartments constructed in violation of a 1926 law that limited construction to four stories in a seismic area. The quake also occurred in the context of Armenia's attempt to break away from the Soviet Union. This meant that Moscow had little incentive to help and local authorities had little support from the resident population. (For more details, see Poghosyan, 2000)

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