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HUMAN BEHAVIOR IN THE MEXICO  
CITY EARTHQUAKE: BASIC  
THEMES FROM SURVEY FINDINGS\*

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## Introduction

The majority of the social science disaster research undertaken up to the present time has been done in developed countries, although the greatest number of major disasters clearly occur in developing societies. However, in this paper we present findings from a systematic and comparative study done in Mexico, a developing country. While it would be a mistake to automatically assume that responses to disasters would significantly differ in developed and developing countries, the research done might give us some clues as to whether some differences might be attributable to the stages of development of the society involved. Under any circumstance, the work partly meets the argument of those who argue that crisis planning and managing in developing countries can be improved only by studying disasters in those kinds of societies (for some such research but almost all of a case study nature see Clarke et. al., 1989 and Kremier and Munasinghe, 1991, 1992).

Apart from the developmental issue, since the disaster hit the largest metropolis in the world, the research findings should throw some light on the reactions of urban residents. This too should be of interest to developing countries since it is estimated that:

the world is becoming more and more a world of great cities, and these cities are increasingly located in less-developed countries (Dogan and Kasarda 1988:12).

UN demographic studies support this in that they project that by the year 2010 there will be 511 metropolises exceeding 1,000 000 inhabitants. In that year the world population for the first time will have become predominantly urban, reaching nearly 52% of the total (Jones 1992: 53). Moreover, about forty more such large cities will come into being every five years so that 15 years later, there will be 639 metropolises with over a million residents, with 486 of these in developing countries. In fact, 114 of 135 huge urban agglomerations exceeding four million inhabitants in size will be in the developing world (Quarantelli, 1992). If the probable response to disasters in large urban areas is not on the planning agenda now, it certainly will be in the future.

## The Mexico City Earthquake

In September 1985 an earthquake (actually two within a 24 hour period) struck in the metropolitan area of Mexico City, killing thousands and injuring tens of thousands. At least a hundred thousand building units, mostly residential ones, were damaged in some way. Hundreds of thousands of the residents were made homeless. Material and property losses amounted to billions of dollars, in the 4-5 billion dollar range. Many of the important federal governmental buildings, numerous financial and industrial

offices, key communication centers, and the largest central district hospitals were in the major impacted neighborhoods. In addition, 30% of hospital beds in the city were lost as well as 22% of schools facilities, and more than 10,000 shops and factories were affected. Obviously all of this considerably disrupted everyday life in the largest urban complex in the world (for more details, see Dynes, Quarantelli and Wenger, 1990). Thus, what happened was a major disaster although not a catastrophic one given the population base and community resources involved (e.g., the residents numbered over 20,000,000 and the directly affected neighborhoods consisted only 3.2% of the whole federal district).

The Disaster Research Center (DRC) in collaboration with Mexican colleagues undertook field research on social aspects of this occasion. With the considerable assistance of staff members from the Instituto de Investigacion de la Comunicacion (a survey organization), and from the Facultad Latinoamericana de Ciencias Sociales (FLACSO), DRC carried out an extensive study of individual and organizational behavior during the emergency period of the earthquake and in the year afterwards. A major volume summarizing all the research results, especially on organizational aspects, has been published (see Dynes, Quarantelli and Wenger, 1990).

#### The Population Surveys Undertaken

In this article we summarize only some of the research findings about the behavior of the residents of Mexico City. Data about individual behavior were primarily obtained through two major population surveys, one conducted within three weeks of impact and the other about a year later. These surveys were carried out in the field by Instituto personnel; DRC assisted in developing some of the questions used, undertook detailed analyses of the data, and is responsible for the findings reported in this paper.

The initial survey was conducted during the first week of October 1985, within 21 days of the disaster impact. A total of 567 randomly selected respondents, but stratified with respect to gender, age and socioeconomic status, were interviewed. The sample is statistically representative, with a margin of error of three percent, of the population in the metropolitan area of Mexico City. Topics covered in the survey included: how well or poorly the government handled a dozen major earthquake related tasks (such as search and rescue, the feeding of victims, the sheltering of the homeless, the providing of information, etc.); usages of the mass media by those surveyed and their attitudes about the reporting of the disaster; perceptions and evaluations of the actions of the Mayor's Office, the military, the police, the President of Mexico, and volunteers following the earthquake; disruptions of services and damages to homes as a result of impact; what disaster occasioned problems should have priority for action; and what kind of volunteer work those surveyed did in the trans- and post-impact period of the earthquake.

Also, each of the 567 respondents were treated as informants for certain purposes. They were asked to provide information on earthquake related activities of every member of their household. Therefore, information was available on the extent and nature of volunteer activity for a total of 2,965 individuals.

A year later, in 1986, another population survey was done. A total of 749 persons, sampled in the same way as indicated for the earlier survey, were interviewed. Topics covered included the following: the longer run problems brought about by the earthquake; whether the respondent provided and/or obtained housing and sheltering as a result of the disaster as well as the nature and duration of that kind of assistance; perceptions and attitudes regarding how the government generally and specific agencies (e.g., the police, the Red Cross, the Health Secretariat, etc.) had handled earthquake related problems; what had been individually learned from the experience and the knowledge that existed of disaster planning; evaluation of earthquake related tasks such as the handling of foreign aid assistance, the reconstruction of hospitals and schools, the restoration of the water service, the demolishing of damaged buildings, etc.; the nature and duration of volunteering actions undertaken; and, some of the consequences of the disaster on preexisting social problems in the metro area.

The data results of both surveys, question by question, were extensively and statistically analyzed by DRC staff members. However, in this paper, we set forth the more general conclusions or themes about individual and household behavior that cut across a number of our particular empirical findings. In the process some implications of both a theoretical and practical nature are noted.

### The Basic Themes

1. Small, even minuscule percentages, translated into large or huge absolute numbers with respect to personal behavior in the earthquake.

While this possibility is a very logical one, the findings from this study dramatically illustrate the importance of the point in very concrete terms. Perhaps only one percent of people did or thought something, but that meant several hundred thousand individuals reacted in the same relative way. To focus only on percentages or only on absolute numbers will convey radically different pictures of the situation.

In the main, this is not an observation that has often been made in the past. Only rarely have disaster researchers noted the possible theoretical insignificance but operational importance of small percentages (e.g., Quarantelli, 1985a: 199-200). We see this can be true in two ways. First, as in the Mexican situation when the base number is very large, even tiny percentages that are by explicit criteria statistically or theoretically unimportant can

extrapolate to very large absolute numbers (e.g., only about 9.8% of the residents ever volunteered in any way in the three weeks after the earthquake but that translates into over 2,000 000 volunteers!). The other instance is when an absolute number is itself relatively low, but because of cultural values involved the phenomena can become important for symbolic reasons (e.g., burying the dead properly, see Blanshan and Quarantelli, 1981; treating the seriously wounded quickly, see Quarantelli, 1983). The observation from Mexico City suggests that those who study disasters ought to consider, more seriously than they have tended to have done so far, those findings which are not significant for most theoretical and research purposes, but which otherwise be very important.

In fact, there may be a very important practical implication in this thematic research finding. It is that the discrepancy between statistical percentages and absolute numbers with respect to individual behaviors may become progressively more important, the larger the disaster as well as the larger the population base involved. In a small size (impact and population wise) community disaster, the absolute numbers for much behavioral phenomena may actually involve only literally a handful of people. It is easy therefore to ignore such a possibility in disaster planning and not to notice it in the managing of the more typical kinds of community disasters. However, if the disaster is very large and in a densely populated area, the matter has to be operationally addressed both in preparedness planning and disaster response.

2. The social class or socioeconomic status of persons and households was a rather consistently differentiating factor in their behavior in the disaster.

It there was one background factor in both surveys that stood out, it was social class. It affected a wide range of behaviors ranging from the degree of initial earthquake impact that was suffered (e.g., middle class households were relatively more impacted than were lower class ones), to how individuals felt about a variety of disaster related tasks and activities that the government had undertaken during the year after impact (e.g., upper class persons tended to be more critical than lower class respondents). While socioeconomic factors were not important in everything, they seemed to differentiate to a degree on most matters.

In one sense the observation that social class was an important differentiating factor should have, at least for sociologists, been expected. However, socioeconomic differences conceptualized in any of the different ways social scientists conceptualize them (e.g., Gilbert, 1982; Kerbo, 1983; Wright, 1985; Kinloch, 1987; Saunders, 1989) have seldom been incorporated into studies by disaster researchers. In fact, Taylor sometime ago (1978: 276) noted that it was probably a valid criticism that the research: "has been primarily undertaken on white, middle-class persons and groups". While the research situation has somewhat changed in recent years,

it is still rare to find studies that specifically look at social class differences (for some exceptions see Drabek and Boggs, 1968; Turner, 1976: 182-183; Quarantelli, 1985b: 25). A confirmation of this lack of attention is that Drabek (1986) in his recent inventory of the literature cites only about a half dozen studies that use socioeconomic variables in their data analyses. While some European theoretical criticisms of what has been called the North American disaster research tradition have alluded to the lack of socioeconomic factors in the research done (see, e.g., Schorr, 1987 for summaries of this point of view expressed by German critics), very few studies done anywhere have used social class as either a descriptive or analytical variable.

The Mexican study clearly indicates that much more attention ought to be paid to social class differences among victims, again for both theoretical and practical purposes. From a theoretical point of view, using social class differences both descriptively and analytically should provide a much more powerful research variable than standard demographic and individualistic dimensions such as gender, age, education, occupation, etc. which are not as intrinsically social and holistic as the socioeconomic status of the person. From a practical viewpoint, for example, emergency managers who have to deal with a homogeneous social class population have rather different disaster related problems of a social nature to deal with, than those in communities with very heterogeneous social class composition (this problem recently surfaced in the aftermath of the Loma Prieta earthquake and Hurricane Andrew in the United States where the everyday homeless in some communities were not taken into account in either disaster planning or managing).

3. Individuals expressed relatively little dissatisfaction with both the short run and long run organizational efforts to deal with the earthquake consequences.

Our Mexican respondents were conscious of the fact that there were a variety of problems or difficulties in the immediate and longer run post disaster organized efforts to cope with the disaster. They did not perceive or assume that everything was perfect; far from it. But what stands out is what might be called an unwillingness to blame any specific officials and/or groups for failure to solve the problems or inability to handle difficulties. This was true whether perceptions and evaluations were of the general organized response, of the response activities of specific organizations, or of particular earthquake related tasks.

This kind of lack of complaining about the formal organized efforts to cope with a disaster is not consistent with much of what had been reported in prior research. A general theme in the literature instead is that the post impact period is often marked by many complaints and condemnations about what was done or not done, and frequently specific organizations are singled out unfavorably (e.g., in the 1960s the American Red Cross was very negatively

evaluated for its shorter run organizational performance after disasters; see Taylor, Zurcher and Key, 1970; in more recent times as again surfaced after Hurricane Hugo and Hurricane Andrew in the United States, the Federal Emergency Management Agency has been excoriated for its post disaster performance). But in Mexico, even though several organizations (e.g., the police and the military) carried with them into the disaster a negative preimpact popular assessment, there was not a great unfavorable evaluation of both immediate and longer run performances of all organizations (at least in percentage terms).

At the very least our study in Mexico indicates that it should not be automatically assumed that when there are organizational problems in responding to disasters, there will be very negative evaluations by victims of the involved groups. Of course this observation raises perhaps more important questions: what are the conditions which will generate such a reaction in a population, and would this kind of reaction by individuals be found in all societies? It could be hypothesized, for instance, that in more democratically oriented societies where citizens expect the government to directly help them (as compared to those countries whose populations have no such expectations), blame and fault finding is more likely to emerge.

4. There was no noticeable increase in perceptions of disaster related problems or dissatisfaction with the general efforts to deal with them from the time of the initial impact up to the year's anniversary of the earthquake.

Apart from the matter of relative absence of complaints about the organizational response as just discussed in the previous thematic finding, it was also noticeable that there was no general increase in negativism about problems through time. That victims could ignore the more problematical aspects that arose right after what might be considered a rather unexpected disaster might be understandable, but this attitude of insouciance would seem less likely if problems persisted or emerged in the later recovery and reconstruction periods. But in the Mexican earthquake aftermath, there was neither noticeable increase in the perceptions of problems nor in negative evaluations of how they were generally handled. The "bitch phase" in the recovery phase as some have phrased it (Drabek, 1986: 229) did not appear. In fact, with respect to some problems there were more positive evaluations of how they were handled a year after the disaster than immediately afterwards, and also how organizations might handle similar problems in future disasters (e.g., eight of the emergency related groups were evaluated by more than 50% of the survey respondents as having become better prepared during the year after the disaster).

The prior research literature has long suggested that while there might be a high degree of social consensus and community solidarity at the emergency time period of disasters, in the longer run a more

negative converse reaction will appear (Quarantelli and Dynes, 1976; see also Form and Nosow, 1958:118; Bates et al., 1963; and Blocker, Rochford and Sherkat, 1991). To some extent the political demonstrations that occurred in Mexico City in the weeks and months following the earthquake, seem consistent with the idea that there will be a post recovery time period increase in negative attribution of problems, a growing disillusionment with the assistance provided, and/or the emergence of conflicts among different community groups. However, our survey data failed to find in the population as a whole that there was the development of many negative or unfavorable attitudes in the recovery period, major disappointments with how earthquake related problems were handled in general, and/or the assignation of blame for the disaster problems on something, someone, or some group (nevertheless we should note that some other researchers have written that "the social stresses introduced by the disaster evolved a political expression that came to threaten the entire Mexican political system" (Zermeno and Lorey, 1991:1).

While the empirical findings are a clear indication that individual negativism or unhappiness will not automatically appear in the recovery stage after the so-called "honeymoon" post impact phase of a disaster, they do raise the interesting question of why and when this will occur. Is what we found attributable to some particular aspect of the specific disaster involved, some characteristic of developing societies, or what?

5. The earthquake-related sheltering and housing of people and households appears to have been not as problematical as the great extensiveness of the activity might have suggested.

Our survey data indicated massive movements with respect to sheltering and housing (about 2 million residents of Mexico City left their homes for some time after the earthquake). Not only were evacuees (and others who moved) absorbed into the homes of kin, but they were housed for relatively long periods of time (60.6% of evacuees stayed elsewhere for up to a month).

Particularly noticeable again was that there was little expression of overt dissatisfaction by either the larger number of movers or the households which received them. In fact, those who temporarily moved, that is those who primarily went to relatives, were often less negative than individuals who had not gone elsewhere sometime in the year after the earthquake. Most of those who left their homes in Mexico City seemed to treat the whole process with considerable equanimity.

The existing literature indicates that while those forced out of their homes by a disaster will initially be taken into the houses of relatives and friends, there is a strong tendency for the welcoming attitude to wear out relatively quickly (Quarantelli, 1984). This has been observed as far back as the studies done on



the long run evacuation in the Holland flood of 1953 (Lammers, 1955). This did not seem to have occurred in Mexico. Furthermore, friends in contrast to relatives in Mexico City played a lesser role in sheltering and housing than is suggested in the literature (e.g., "The more severe the impact of a disaster on a family, the less likely will that family rely solely on extended kin for recovery aid", Bolin 1976: 275; also Bolin and Bolton, 1983).

We have additional confirmation in our study that victims of disasters, if necessary, will find their own housing and mostly ignore public sheltering of any kind. But we suspect that the atypical lack of complaints all around about the situation may stem from two factors somewhat specific to Mexico. On an everyday basis there is a severe housing shortage in Mexico City and apparently residents are used to having to help out relatives on that matter. It is also possible that the relatively easy acceptance of what could have been a major source of problems and derivative difficulties has to do with certain sociocultural values in Mexican society, a point we shall discuss later.

6. The volunteering pattern of individuals was quite complex.

Differentiation characterized the volunteering that occurred in the Mexican earthquake. In absolute numbers there were many volunteers both in the immediate post impact period and during the year following the earthquake. On the other hand, the vast majority of residents of Mexico City never got involved in volunteering activity of any kind in the first three post impact weeks. In the emergency time period males did more volunteer work than females, but upper class persons volunteered considerably more than lower class individuals. Later volunteers were not differentiated on those two social characteristics. The relatively younger but not the youngest age categories undertook the most early volunteering, and volunteers after the first few hours generally were not residents of the most devastated areas.

This differentiated pattern of volunteering are not what on-the-scene popular beliefs or mass media stories suggested (which implied that volunteers were overwhelmingly from impacted neighborhoods, were poor, and were the young). More important, our findings strongly indicate that the current research literature on volunteering may be too simplistic in its conclusions. Apart from the existence of a very complex and differentiated pattern of volunteering behavior, some specific generalizations in the literature are challenged by the results of our study. For example, only in a very limited sense was there a "mass assault" (as it has been called, see Drabek, 1986: 223) of individuals in this disaster. Young teenagers have sometime been mentioned as a potential large pool for individuals who could be used to work at disaster relevant tasks (Quarantelli, 1981), or have been singled out as participants in mass media accounts (Phillips, 1987), but they were not the major source for volunteers in the earthquake.

There are a number of implications from the complex and differentiated pattern of volunteering we found. At the research and theoretical level, for instance, it is clear there needs to be much greater clarification on specifying the who, when, what, and where of volunteering. In fact, the very concept of volunteer requires more theoretical attention so better research on the topic can be undertaken (for an effort to typologize group volunteers, which did occur in Mexico City, see Dynes and Quarantelli, 1980). At the practical or operational level, it is also obvious that planning for the mobilization and use of volunteers needs to be far more sophisticated than it has tended to be (e.g., in recognizing that volunteers in the early phases may be more socially differentiated than volunteers in the later or recovery stages of major disasters such as occurred in Mexico City).

7. There was extremely heavy mass media usage in the aftermath of the earthquake.

By almost any criteria that could be used, the population of Mexico City turned to using the various mass media sources available very extensively after impact. Audience numbers were massive and the amounts of time given to attending to mass media depictions of the earthquake was equally impressive. It almost appears that at certain hours in the first few post-impact days that except for those directly responding to the effects of the earthquake (such as those engaged in search and rescue or victims moving to the homes of their relatives), practically everyone else was listening to a radio set, watching a television screen, and/or reading a newspaper. In one sense of the term, there was a "mass assault" on the mass communication outlets in the metro area of Mexico City.

Our observations of media usage in this disaster, document what has mostly up to now been derived from anecdotal kinds of impressions rather than from systematic empirical data (Kreps, 1980, but for research that has looked at audience behavior see Ledingham and Massel-Walters, 1984; Beady and Bolin, 1986; Perry and Mushkatel, 1986; Mikami and Hashimoto, 1990; Seydlitz et al. 1991). Furthermore, on the whole, the residents of Mexico City seemed generally satisfied with what they obtained from the mass media sources in both the short and the long run--a matter about which the general research literature has little evidence (although some Japanese studies have attempted to ascertain audience assessments with regard to what the mass media provide, e.g., see Hiroi, Mikami and Miyata, 1985). In fact, if anything, there is an implication in the literature that audiences are negative over some mass media content produced in disasters (see summaries in Drabek, 1986: 166, 336-338). This study in Mexico has provided some empirical underpinning for a general understanding of mass communication behavior in major disasters.

From an operational or practical viewpoint, it seems that it is possible in crisis situations for the mass media to provide

disaster content which the general audience does not find wanting. Unfortunately, since in the main we could not do any content analyses of what was reported, we can make no direct link between the overall satisfaction expressed and what was actually broadcast, telecast or printed. However, this case does illustrate that disaster planners and managers should not have any doubt that those who experience a major disaster will turn, if it is functioning, to the community mass communication system.

8. Individuals did not learn very much from their experience of the earthquake on how to prepare for future disasters.

At a superficial level, residents in Mexico City claimed to have somewhat learned from their earthquake experience on how to prepare for and react in future disasters. But in reality we found little evidence that much of relevance had actually been incorporated into everyday personal and household behaviors. A year later, knowledge of what the national government had done by way of preparedness for future disasters was also almost nonexistent. There was also no tendency to move from a locality which was recognized as dangerous.

This general lack of learning by individuals is an observation fairly consistent with what has been reported in the literature, although the year long period we studied is by far a much longer time span than has usually been examined in most other research (see summaries in Drabek, 1986: 349-360). That disaster victims will remain in an endangered area has also been long recognized (White, 1974). While some relevant disaster related preparedness learning does sometime occur, it is relatively rare (except for the learning of cues that might indicate the possibility of the future occurrence of a similar disaster threat). Therefore, it would appear probable that just as organizations usually seem to learn very little only from the experience of undergoing a disaster (see Anderson, 1970), so do individuals also fail to learn lessons for future preparedness.

While the thematic observation just stated is not new, it was derived from a far larger than usual disaster where a possible different outcome might have been anticipated. But it seems that just as the dramatic nature of a disaster is not enough to occasion learning, neither is a bigger disaster per se likely to do so. This reinforces the need to examine further why a disaster experience usually contributes so little to personal learning. Our major hypothesis drawn from DRC studies of organization learning is that actual experience needs to be reinforced by a supportive and directive social context (see Ross, 1978). If this proposition is validated by further research, it will give to disaster planners some guidance on how they could build upon the experience of citizens in community disasters to better prepare for future ones. There is little in what we found in our Mexican study to encourage planners and managers to think that if people in their localities undergo a disaster, they will automatically be better

prepared for future ones (in fact, there is the possible dysfunctional consequence of a "near miss," having survived a disaster there may be the feeling that there is no great need to be concerned and prepare for another one).

### General Applicability of the Findings

To what extent can the research findings we obtained from the Mexico City earthquake be generalized to other societies? This is an especially meaningful question particularly because what we found, while not completely different from what had been previously reported in the literature, did differ in two general ways. On some matters, the observations from Mexico are simply not consistent with other earlier work on the topic (e.g., the absence of blame assignation to organizations for the existence of disaster related problems). On other matters, we obtained research findings about factors either not studied or less well examined in previous work (e.g., social class differences). The contrast of course is between the observations set forth in the existing literature (mostly derived from research in urbanized and industrialized societies such as the United States, Japan, Canada and western Europe), and what we found in Mexico.

It might be argued that the differences we saw was a reflection of the fact that Mexico is a developing country, while the research findings in the existing literature are for the most part derived from studies in developed societies. We do not think there is any validity to such a view. Apart from the fact that the conceptual distinction between "developed" and "developing" is both logically and empirically very questionable (see Quarantelli, 1986), there is a simpler and more likely explanation of what we found.

Anthropologists have long pointed out that different societies have rather varying sets and patterns of sociocultural values and beliefs. Such factors are involved in everything from the way nature is approached, to what is deemed the proper goals and ends human beings should strive for, to what is taken for granted and what is seen as open to be being questioned, etc., to mention but a few dimensions which have been the object of description and analysis. For example, research has established that something such as chronological time is socially reconstructed in all societies and that, for instance, what is defined as "slow" in one country or culture is "fast" in another, etc. (see, McGrath, 1988).

Mexico and the United States have somewhat different patterns and combinations of sociocultural values and beliefs. Systematic research have identified some of the key differences (see, e.g., Ross, Mirowsky and Cockerham, 1983 on a greater fatalistic attitude among lower class Mexicans); there is also some evidence that perceptions and beliefs about social class differences are less sharp in the United States (see Tarres, 1987).

Now some of our findings probably can be seen as resulting from different sociocultural values and beliefs. For example, we noted the relative absence of fault finding, blame, or attribution of problems to what specific organizations or more abstractly the government did or did not do in the aftermath of the earthquake. From the perspective of many in the United States, the reaction would seem rather passive, non-challenging of authority, if not almost a simply manifestation of a fatalistic attitude of "what will be will be" (see Davis, 1976, 1979). Certainly research in the United States has indicated that victims tend to be more active in their reactions to disaster related difficulties and quick to blame organizations for failure to solve problems (see, e.g., Barton, 1970; Dynes, 1974; Drabek, 1986).

In fact, in disasters of much less magnitude and impact than the Mexican earthquake, individuals in the United States tend to react far more strongly and negatively. Also, there is a tendency for proactive rather than just reactive responses to even just the potential possibility of a disaster in certain communities in the United States, as reflected by the numerous emergent citizen groups that have surfaced in recent years to deal with threats of and not actual impacts of disasters (Quarantelli, 1988). These differences as well as others in the two societies as far as disasters are concerned could be primarily attributed to some of the ways they differ in some of their sociocultural values and beliefs. More generally, if Indians differ in their responses from Germans, if people in Pakistan differ from those in Japan, it is because of those cultural differences, not because they live in developed or developing countries.

Put another way, such differences as can be observed in the responses in different societies to disasters are attributable to their sociocultural patterns as just discussed (and their sociostructural dimensions which we have not addressed in this paper). The different set of patterns as a whole do not distinguish developed from developing societies. The explanation of societal differences in the responses of human beings is to be sought in the cultural values, beliefs and norms that guide the behaviors of individuals in the social systems involved.

However, our study in Mexico also suggests that there probably are universalistic behavior responses in disasters. There were many similarities in the behaviors observed in Mexico and what the research literature reports (e.g., many volunteers to deal with disaster generated tasks appear both in the short and long run, individuals around impacted sites are the initial responders in search and rescue, panic flight behavior and looting behavior is very rare, those needing shelter go to relatives, heavy use is made of the mass media reports for news about a disaster, victims learn relatively little from their experience, etc.). If nothing else, our study in Mexico confirms the probable universality of certain kinds of individual response patterns.

What needs greater clarification is which behavioral patterns are more societally specific and which are more universalistic in nature. The Mexican study has given us some clues, as well as the very limited amount of other research that has been truly cross-societal (e.g., McLuckie, 1977; Perry and Hirose, 1983; Quarantelli, Wenger, Mikami and Hiroi, 1992). Such work has begun; far more is needed.

For various reasons, developing societies would be particularly good locales for such comparative studies. There are theoretical, methodological and logistical problems in carrying out such cross-societal and cross-cultural work (see Quarantelli, 1979 and Research On Socioeconomic Aspects, 1989). But as Dynes (1988) has documented it can be done, and it should be done.

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