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CRITERIA FOR EVALUATING DISASTER PLANNING IN AN URBAN SETTING*

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Disaster Planning

What is good disaster planning? For most of human history, it would have been necessary to provide an answer based solely on unverified assumptions, anecdotal stories, and/or isolated non-random observations. But after over three decades of systematic social science research on organizational preparation for and managing of disasters, we have a solid base of knowledge that can be used for the purposes of assessing planning (see Barton, 1970; Dynes, 1974; Quarantelli, 1981b; Dynes, Quarantelli and Kreps, 1981; Quarantelli, 1984a; Drabek, 1986; Dynes, DeMarchi and Pelandra, 1987; and Quarantelli and Wenger, 1987).

In this paper we will discuss ten research-derived criteria which can be applied to preparedness planning. They are applicable at any level of social organization, but our focus is primarily at the community level. We shall also note that there are special aspects which might make the applicability of about half of the criteria more difficult in an urban setting. This special attention to metropolitan areas is of some importance, for at the turn of this century less than 14 per cent of all people lived in cities, whereas, by the year 2000, nearly half of the world's population will most likely be urban (Jensen, 1988:4). Our focus also is on preparing to respond to a sudden emergency and not on mitigation or the prevention of disasters in the first place. Finally, no effort will be made to differentiate between planning for natural and for technological disaster agents since, given our objectives in this paper, such a distinction is not a very useful one.

Good community disaster planning must:

1. Recognize that disasters are qualitatively different from minor emergencies.

On a daily basis, almost all community organizations learn to deal with local minor emergencies. For some, as for example the public utilities, fire and police departments, hospitals, railroads and airlines, and parts of the chemical and nuclear industry, such responses to accidents are a normal part of their everyday community activities. They have standard operating procedures (SOPs) to manage such situations. Often these organizations have highly skilled personnel who have become quite adept at dealing with minor crises.

Unfortunately, this often leads to the belief that a local disaster is merely a very large scale accident. In a nationwide study of the chemical industry, we found that many officials felt that preparedness planning for acute toxic releases, chemical explosions, and other such mishaps was no more than an extension of everyday corporate health and safety measures (Quarantelli, 1984b). In another study of the delivery of emergency medical services (EMS) in large mass casualty situations, interviews with
EMS personnel showed that it was their belief that special preparedness planning was unnecessary because the provision of EMS in disasters was but an extension of EMS in daily operations, the only difference being one of degree (Quarantelli, 1983).

These and similar views, often strongly voiced, are simply wrong. In a disaster there is a difference of kind, not just degree, compared to what goes on in an accident or minor emergency. A disaster involves not just more, but something which is qualitatively different. An accident cannot be perceived as a little disaster, nor can a disaster be viewed as a big accident!

This is not merely a distinction that has come out of social science research. Some organizations and communities also recognize that such differences exist. For example, public utility companies in the United States carefully distinguish between: (1) accidents or emergencies (e.g., everyday localized breakdowns which can be handled by local resources and personnel); and, (2) disasters and catastrophes (e.g., statistically rarer events which require external aid because local resources cannot cope with the acute demands). Many public utility companies typically recognize a "qualitative difference" between emergencies and disasters. Anyone having the responsibility of planning for or managing the response to such occasions should also recognize and accept the fact that such differences do exist.

We give the following five examples to illustrate major qualitative differences between disasters and everyday local emergencies.

(A.) During community disasters, organizations are forced into more and different kinds of interactions with other groups. The greater the number of contacts among organizations the more new relationships with other groups or organizations will be established. For example, businesses may be required to interact with social service agencies for the first time during major crisis periods. In addition, local private groups may be required to coordinate their activities with remote and/or unfamiliar governmental bureaucracies.

Conversely, during periods of normalcy new relationships between organizations often develop very slowly. There is seldom a need to suddenly and concurrently establish linkages with multiple groups having local, state, and regional, and/or national components. During a disaster, however, there is little time available to adjust, for example, to the blurring of interorganizational boundaries, or the informal sharing or pooling of personnel, tasks, and equipment—common features of major disasters, but not minor emergencies. Complicating such situations of greater interdependence is the number of new groups with varying functions, capabilities and expectations that will be involved. Even a relatively moderate size disaster will force dozens of unfamiliar local and extra-local organizations to work together on unfamiliar or new tasks that are a part of the community response network. In short, disasters call for more and different organizational relationships (Quarantelli, 1985a).
During disasters, organizations will lose some of their autonomy (e.g., direct control over their own functioning). In most societies, when a community's ability to function normally is seriously threatened, security and protection from life-threatening situations usually becomes the responsibility of civil authorities. The mayor, the police chief, the head of the local disaster agency, or some other official, can declare a "state of disaster" and initiate measures to control disaster-related activities in a given locality. In all cases the normal, everyday autonomy of organizations is curtailed everywhere in major disasters.

As a direct result of the loss of organizational autonomy, daily activities which are taken for granted become problematical during a disaster. The freedom of mobility within the community, as for example, entering or leaving one's property, may be restricted by police barricades or an evacuation order. During disasters involving dangerous chemicals, site control in the United States may actually be vested in an outside agency such as a state or regional hazardous materials response team, or a Federal agency such as the Environmental Protection Agency. Additionally, the national or international corporations will often intervene during disasters and assume responsibilities, make decisions, or set policies which normally would be the sole prerogative of the local plant, office, or operation. In short, organizations can have their autonomy pre-empted in disasters in a way which will not occur during minor emergencies.

Performance standards for organizations may change drastically during disasters. What is appropriate during periods of normalcy or minor emergencies often becomes less relevant during the managing of a major community crisis.

For example, SOPs for fire service professionals require a swift response to emergencies involving structural fires. However, firefighters should respond quite differently to fire-related emergencies involving unidentified chemical substances or materials whose properties are not thoroughly understood. Often, delaying the response until the situation is clarified is what is called for in the disaster planning. By using daily performance criteria as a basis for determining the type of response required to control chemical incidents, some fire departments can unintentionally turn minor chemical incidents into major chemical disasters. Similarly, EMS professionals have adopted SOPs that emphasize quick response time and swift delivery of patients to hospitals. However, when handling large numbers of casualties, such routine operations are, or at least should be, pre-empted by special procedures. For example, there should be the triaging of victims and the judicious transportation of injured persons to area hospitals to avoid overcrowding of emergency rooms and other risks associated with delays in emergency medical care due to overloading of hospital staff and substandard medical care.

Thus, performance criteria used during daily routine operations often yield to the adoption of disaster performance criteria during major crisis occasions. As is the case when fire professionals are faced with crisis situations under conditions of uncertainty, EMS systems that use daily performance criteria as a basis for determining the actions that should be
taken during major crises have resulted in inadequate and inappropriate responses to mass casualty incidents. Under the pressure of increased disaster-related demands, emphasis on speed of response and "snatch and run" procedures are not appropriate response managing principles. In short, disasters call for different types of organizational performance than do minor emergencies.

(D.) A minor emergency is often managed by an organization (public or private) having responsibility or authority to effectuate an emergency response to deal with the situation, or is managed by local organizations such as the police and/or fire department. Under emergency conditions, the crossing of boundaries among public and private sector organizations is seldom required. However, during disasters in the United States a more coordinated relationship among public and private sector organizations is required. Thus, a disaster requires the mobilization of public community resources and often requires the preemption of some private rights by public rights. For example, unrestricted entry onto private property, which is normally very limited on a daily basis, is permitted under disastrous conditions. Also, in disasters the destruction of selected private property for the good of the larger community (e.g. the construction of levees) is often permissible without negative consequences.

Although legally questionable in many societies, the requisitioning of private goods and/or equipment for the public good is an acceptable practice during major disasters. Such actions are not necessarily restricted to the public requisitioning of private goods. It is to be noted that essential personnel and resources from the private sector are often freely offered for the public good at the height of a disaster. Under disastrous conditions, there may be, in fact, public expectations and demands for goods and services from the private sector which would not otherwise occur during periods of normalcy. Thus, boundaries between public and private goods and services become blurred during disasters.

It might be argued that some societies do not have much of a private sector where there is individual as opposed to collective ownership. Actually, in all human groupings there is some kind of family, if not personal, ownership of things. More important, even when the state, in principle, owns practically everything, different governmental subunits have claims of "ownership" (i.e., control) of different properties. So at times of disasters, even in these societies, there is likely to be a melding and blurring of who "owns" what (Quarantelli, 1986b).

(E.) In the typical everyday community emergency, the responding agencies are not impacted directly or indirectly. Their personnel, equipment, facilities, and resources are not damaged, reduced, made inoperable, or destroyed. Usually the supportive infrastructure of public utilities and works will remain functioning, and there will be no impairment of physical movement. In a sense, the helping groups moving to deal with the accident or emergency are dealing with an unfortunate event that has happened to someone else.
Whereas in a community disaster the local responding organizations themselves will frequently be part of what is impacted, directly or indirectly. They may lose some of their workforce, buildings, supplies and resources. Even if they have no direct losses, they will often have difficulty functioning because of total or partial loss of the electric power or the telephone system, and/or the blocking of roads because of debris and wreckage. As such, the community groups involved are also victimized, more or less, by the disaster impact.

Good community disaster preparedness has to take this into account. In fact, there could be relatively good preparedness for going in as an "outsider" to a localized emergency, and poor or no preparedness for the organization itself being impacted. In American society, research has found this often to be true of hospitals and mass media radio or television stations. They may be relatively prepared as "outsiders" to respond to an emergency, but have few preparations to help in responding to direct or indirect impact. This is often a major difference between community disasters and minor emergencies.

Recognizing that disasters are qualitatively different from emergencies is especially likely to be a problem in large metropolitan areas. This is because most emergency oriented organizations in such urban settings, be they public utilities, the fire department, the water department or hospitals are accustomed to dealing with numerous everyday minor crises. It becomes easy for them to believe they are prepared for emergencies—which they are—but fail to recognize they are not prepared for disasters. In less urban areas where even minor crises perceive are problematical, the emergency organizations do not usually perceive themselves as prepared for any eventuality.

If we consider the five differences we have discussed, we can say that disaster preparedness planning which does not recognize the qualitative as well as quantitative differences between emergencies and disasters cannot be good. It is crucial that disaster planners recognize that they have to think about disasters in a different way from everyday accidents, disruptions and minor emergencies. To paraphrase Hemingway, just as the rich are different from the poor in their behaviors, disasters are different in major ways from everyday emergencies.

2. **Be generic rather than agent specific.**

Most disaster planning is agent specific rather than being primarily generic or general. However, research shows good planning takes the latter rather than the former position. Because something is widely believed is no indication of the correctness of a particular point of view.

There is a tendency to organize separate planning around specific disaster agents. Thus, one finds in many places around the world that often there is separate planning for chemical disasters, separate planning for nuclear plants, separate planning for flood threats, and so on. The planning is
separate, with usually separate organizations for preparing and responding to the separately viewed threats or impacts.

This separate kind of agent-specific planning might seem natural and obvious. Are not chemical threats different from earthquakes? Are not floods different from massive fires in high rise buildings? The answer, of course, is yes, but yes only up to a certain point.

For very many of the human and organizational problems in preparing for and managing the response to disasters, the specific kind of disaster agent does not matter. For example, the same kind of warning messages and the same kind of warning system is needed and effective in getting people to evacuate, irrespective of the specific disaster agent involved. It does not matter if the agent is a cyclone, a chemical spill, a tsunami or "tidal wave," or radioactive fallout—what will motivate people to give credence to warning messages, what kinds of warning messages will be effective, what will limit the acceptance of a warning, and so on will be the same in all cases. These human aspects of a disaster do not depend on the specific type of disaster agent involved (Quarantelli, 1985b).

Similarly, if there is need for organized search and rescue or the large scale delivery of emergency medical services after a disaster impact, the more important organizational aspects that have to be dealt with do not depend on the specific disaster agent involved. Our research, for example, has consistently shown that there is a strong tendency for the less seriously injured to be treated first, that there is a strong likelihood that not all the available hospital and medical facilities will be used. Likewise, studies have shown that ordinary citizen victims will undertake most of the initial search and rescue, that the handling of dead bodies, especially if they are dismembered or disfigured, is very psychologically disturbing and has mental health consequences for those who engage in such activities. The specific disaster agent involved does not matter very much.

Disasters do differ from one another. But it is not the difference between a chemical disaster and an earthquake disaster, for instance, which is most crucial. In our view the differences that are important have to do with such matters as predictability, controllability, speed of onset, length of possible forewarning, duration, scope of impact, destructive potential, and so on. It is important for planning and response if there is a possible warning time. It matters much less if the agent involved is a natural one or is a technological one. Certain physically "dissimilar" disaster agents can have similar consequences. Conversely, certain physically "similar" disaster agents can have rather dissimilar effects for the purposes of disaster planning.

Given all this, it is not surprising that DRC studies, as well as the research of others, have consistently shown that disaster planning should primarily be, first of all, generic or general and that there should be only one major organization responsible for coordinating the overall planning for all kinds of disasters. There should not be totally separate preparedness planning by different groups for different agent specific
disasters. Of course, within the overall planning, there can and might be special provisions for the particular aspects of certain specific kinds of disaster agents, but primary emphasis must be on generic or general disaster planning.

We should also note that general disaster planning in contrast to specific agent planning is:

1. cost-efficient in terms of expenditure of time, effort, money, and resources;
2. a politically better strategy because it is possible to mobilize a wide range of groups interested in disaster preparation and response—in effect create a more powerful constituency for disaster planning;
3. a major way of avoiding duplication, conflict, overlaps and gaps in actual responses; and,
4. a way of increasing efficiency as well as effectiveness in any organized response to a disaster.

Here again urban areas are more likely than others to be oriented to specific disaster agents rather than having a generic orientation. The experience of a major specific disaster in the past often is etched in the history or collective consciousness of a community. In fact, many places around the world are often associated with a particular disaster—thus, the Messina earthquake of 1908 or the San Francisco earthquake of 1906, the Great Chicago fire of 1871 or the Great London fire of 1666, the Vesuvius volcanic eruption of 79 or the destruction of St. Pierre in Martinique in 1902 (Nash, 1976), plus more recent catastrophes such as the Bhopal chemical poisoning or the Chernobyl nuclear disaster. While this historical symbolization is understandable, it can lure the community to become too narrowly focused on only certain kinds of disasters. This has been very costly for some communities who were well prepared for the same disaster agent that had been historically significant, but almost totally unprepared for a new but different one (see the case of New Orleans, in Forrest, 1979).

3. Be integrated rather than fragmented.

Another weakness in disaster preparedness planning is that too often it fails to take an overall community perspective on the process. It is of no use for an organization to plan well for itself or a handful of other organizations when potential or actual disasters precipitate a community mass assault on the problem. Studies by ourselves and other researchers have, in fact, consistently reported that local emergency personnel are often surprised at the number and diversity of responders both from within and outside the community which converge on the disaster site—the larger the disaster, the more the converging groups and their variety.

This organizational mass assault would create problems even if planned for, but, unfortunately, there tends to be fragmentation of local disaster preparedness planning. In the United States, at least there frequently are three different clusters of planners who sometimes have little contact...
with one another. One of the clusters is around what has been called the social control sector. This planning is undertaken by representatives of local government and usually involves emergency management agencies (LEMA), police, fire, public safety and sometimes public works organizations.

Another planning cluster tends to be around what might be called the medical and social service sectors. Hospitals, emergency medical groups, and a variety of social service agencies often engage in planning for services for victims. (In recent years the planning for emergency medical services, if it is linked to fire departments, sometimes pulls the two clusters together, but more often than not, there is a planning gap between the two.) Our own field research keeps finding localities where there is separate planning for evacuation and for on-site command posts, for instance. To a considerable extent, the separate planning reflects everyday conflicts and disputes over organizational territory and domain between police-fire departments, fire departments-hospitals, local emergency management agencies-police departments, etc. We have no doubt such competition and conflict among local emergency groups exists in communities everywhere; if so it will often be reflected in separate preparedness planning.

Increasingly, in recent years disaster planning is also being undertaken by institutions and organizations from the private sector—the nuclear power and the chemical industries being obvious cases. Too often their planning remains separate from that of other community groups.

Good preparedness planning requires an integrated community effort. All relevant sectors of the community not only need to be involved but their various actions need to be tied to one another. Disasters, after all, do not impact only one sector or segment of a community; in fact a disaster by most definitions is something which disrupts community life across-the-board. Therefore, planning also has to be across-the-board from an organizational point of view.

Here, too, the absence of integration is more likely to be a problem in metropolitan areas. Often the public agencies in such communities are locked in conflict over organizational domains, and there are frequent byzantine-like political alliances and coalitions among the contending groups. Directly, this does not stem from or is not associated with disasters, but one inevitable indirect consequence is the difficulty it creates for preparedness planning. Sometimes, even within a particular sector, for example, the hospital-medical complex, everyday disputes, differences and disagreements are enough to prevent an integrated approach to preparing for disasters (Quarantelli, 1983).

4. Be based upon an emergent resource coordination and not a command and control model.

There is a strong tendency to assume that disaster planning can borrow much from military situations and settings. Thus, it is often visualized that the best model for disaster organizational preparedness and managing
is what has been called a command-and-control model. This is the notion taken from the military area that a top down, rigidly controlled, and highly structured social organization model ought to be developed for disaster purposes.

Let us leave aside the fact that the command and control model is more fiction than fact even in the military area. It is not the way armies, navies or air forces actually operate, especially in conflict situations; stereotypes and group mythologies to the contrary. Direct studies in the disaster area not only have shown that command and control models seldom are organizationally viable, but more important, would be poor models for disaster planning even if they could be implemented in the real world. (The major exception would be if the military was the only viable and nationwide social institution in the society).

In general, the command and control model assumes that disasters create a tremendous discontinuity with everyday life which lowers the effectiveness of individual behavior and reduces the capacities of the social organizations involved. Given this, planning is centered on the development of mechanisms to control supposedly widespread maladaptive individual behavior and on the creation of ad hoc structures to replace the supposedly disrupted and non-functioning social organizations in the disaster area. Planning efforts are thus directed at the creation of strong authority to overcome the supposedly social disintegrating effects created by the disaster agent.

Generally, planning in this mistaken model is oriented towards creating new norms for individuals undertaking emergency behaviors. For example, spontaneous behavior is frequently seen as inappropriate or as manifesting irrational actions on the part of panicking individuals; but real evacuation is something to be ordered by authorities who are the only ones capable of making rational decisions for others. In this model, plans often make extensive provisions for mass shelters for evacuees on the assumption that individuals and other units, such as families, will be incapable of coping or remedying such crises. Thus, it is assumed new structures are needed to replace the old ones which will have become demoralized or ineffective. This kind of communication and information system is visualized as best able to evaluate information and create official and thus correct messages which than can be communicated through formal and official channels. For the collective good, it is thought decision making has to be centralized with the decisions communicated to induce the compliance of the affected populations (Dynes, 1983).

This kind of planning effort, partly consciously and partly unconsciously, is oriented around creating an artificial and authoritarian structure to replace natural and spontaneous behavior and structure. The natural and spontaneous response is viewed as incapable of being effective in the stress conditions created by a disaster event. In effect, formal plans are created which are thought to be more rational than any informal response, and to which disaster victims and impacted groups are to adjust.
However, the research evidence points in a different direction. We will later indicate that in disasters there is less discontinuity with everyday life than is frequently supposed. Also, rather than exhibiting irrational and abnormal behavior, disaster victims maintain, as much as possible, their traditional activities and their usual occupational and family responsibilities. Most organizations in disasters tend to operate as well as they do on an everyday basis—it is extremely rare for them to become non-functional even in the worst of catastrophes.

Thus, in good disaster planning, rather than attempting to centralize authority, it is more appropriate to develop an emergent resource coordination model. Disasters have implications for many different segments of social life and the community, each with their own pre-existing patterns of authority and each with the necessity for simultaneous action and autonomous decision-making. This makes it impossible to create a centralized authority system. 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 the exercise of authority is more of a problem in the minds of preparedness planners than a problem of life under disaster conditions.

5. Focus on general principles and not specific details.

There is a tendency, whether in developing written plans, conducting exercises, thinking about possible hazards, etc., to elaborate considerably. In fact, there is a strong temptation to go into very specific details. This is the wrong way to proceed and there are several reasons why this is a poor path to follow. It is impossible to plan for everything. Situations are constantly changing and specifics quickly get outdated. Too many details leave the impression that everything is of equal importance when that is clearly not the case. Complex and detailed planning is generally forbidding to most potential users and will end up being ignored. While disaster planning cannot totally ignore specifics, particularly at the organizational level, good preparedness planning should be based upon the use of general principles from which simple rather than complex points can be developed.

But even apart from written plans, all disaster planning should aim at general rather than specific details. For example, within the context of previous discussions concerning problems surrounding organizational coordination, good preparedness planning will consider the fact that during crisis occasions organizations with response responsibilities will be working with new and more groups (both existing and emergent) and that the new and different kinds of relationships imposed by the crisis situation are unlike those that are required during periods of normalcy. However, during the planning process, no attempt should be made to specify all of the possibilities and intricacies associated with the scope or degree of interorganizational contacts which might conceivably develop.

Finally, good planning requires accepting the belief that there are principles of good planning. Few would explicitly deny this. However, implicitly, even some emergency management organization officials think that
every situation is unique and that, in a real sense, general preparedness planning is impossible. That is not a valid view. Every human being is somewhat biologically different from other humans. Nonetheless, the medical world, for example, has little difficulty in identifying general symptoms of illness and specifying uniform treatment procedures. Similarly, each disaster is different, but a general preparedness approach is possible.

6. **Emphasize the planning process rather than the production of a written document.**

A further impediment to developing good disaster planning involves the adoption of too narrow a view of what preparedness planning involves. To many, the writing of a disaster plan is the essence of planning. This is not only incorrect, but actually can be a very dysfunctional position to take. Officials sometimes think they are prepared merely because they have a formal written plan. Even worse, focus on a plan often leads organizations to ignore other critical activities that are absolutely necessary for developing good community disaster planning.

Disaster preparedness is not synonymous with the formulation of written disaster plans. A more useful perspective is to envision planning as "a process" rather than to perceive of it as merely the production of a tangible product. Viewed this way, preparedness planning involves all of those activities, practices, interactions, relationships, and so forth, which over the short term or long run are intended to improve the response pattern at times of disaster impact.

As viewed within the aforementioned perspective, disaster preparedness planning includes:

a. Convening meetings for the purpose of sharing information;

b. Holding disaster drills, rehearsals and simulations;

c. Developing techniques for training, knowledge transfer and assessments;

d. Formulating memoranda of understanding and mutual aid agreements;

e. Educating the public and others involved in the planning process;

f. Obtaining, positioning and maintaining relevant material resources;

g. Undertaking public educational activities;

h. Establishing informal linkages between involved groups;

i. Thinking and communicating information about future dangers and hazards;

j. Drawing up organizational disaster plans and integrating them with overall community mass emergency plans; and,

k. Continually updating obsolete materials/strategies.

Thus, while formal disaster plans are an element in disaster preparedness, they are best viewed as only one of numerous activities which should be undertaken to improve the efficiency and effectiveness of a community disaster response (Quarantelli, 1981a).
The creation of human resources or the reduction of organizational problems cannot be achieved just by writing a plan. For example, converting disaster victims into potential helping resources must involve public education, training techniques, and so forth. Similarly, reducing the response-generated problems of organizations requires having meetings, holding drills, securing agreements on memoranda of understanding and taking other necessary actions as required. A range of activities have to be undertaken if the desirable preparedness objectives are to be achieved.

In urban settings, peopled as they are by hordes of bureaucracies, a focus on the planning process rather than plans can be especially difficult to implement. Any bureaucracy lives on paperwork; often the very viability of the entity is measured by the number of documents it generates. A concern with the planning process in preparing for disasters is therefore not likely to be highly evaluated within most government agencies. It has to be recognized that emphasis on the production of papers is a major obstacle that has to be overcome to achieve good preparedness planning, and this will be a factor in the multi-bureaucracies that often constitute the core of urban governments.

7. **Strive to evoke appropriate actions by anticipating problems and possible solutions or options.**

While in some instances planning can be oriented to prevention, most planning has to be directed toward altering or modifying what will happen. Planning should indicate the range of problems which will occur and a range of possible solutions to them. Thus, good planning attempts to reduce uncertainties, but it is unwise to assume that everything can be anticipated or that all of the unknowns can be accurately predicted ahead of time.

The contingencies are too many to anticipate all possibilities; however, good planning can indicate some of the major parameters of the situation. For example, we can incorporate into the planning process the perspective that disaster victims will take the initiative and will not be passive, or that helping organizations will have difficulty coordinating new tasks. Such an approach reduces the unknowns which have to be considered. It not only narrows the range of problems which need to be anticipated, but also lessens the number of alternative or optional solutions which have to be examined. If disaster victims do not markedly engage in antisocial behavior, for instance, there is little need to plan for a variety of security measures or the mobilization of many law enforcing agencies. On the other hand, if there is always a degree of tension between local and extra-local organizations, whether in the public or private sector, this should be recognized and addressed in preparedness planning.

Community disaster preparedness planning should strive to evoke appropriate actions. At times, planning appears primarily as a mechanism for speeding up responses to crisis situations. It is true that good planning may allow a quicker response to certain disaster problems; however, quickness of response should be a by-product rather than a major objective. Appropriateness of response rather than speed of response is far more
crucial. Accordingly, it is much more important to obtain valid information about what is happening than it is to take immediate actions. Reacting to the immediate situation may seem the most natural and humane thing to do, but it is rarely the most efficient and effective response strategy. The immediate situation is rarely that important in terms of both short-run and long-run consequences. Planning, in fact, should help to discourage impulsive reactions and to encourage the adoption of appropriate actions necessary to meet the challenges of the immediate situation. For example, planning should be directed at slowing down the convergence of helping organizations at a disaster site, thus reducing coordination problems.

8. Be based on what is likely to happen.

Some planners seem more oriented toward conceptualizing the most ideal response-type situation imaginable rather than focusing on the realistic possibilities which will be present. This is unfortunate. It is far better to plan on the basis of how people and groups usually react during normal and emergency situations than to expect them to change their behavior drastically during disasters. In short, planners must adjust their planning to include an understanding of people and their behavior under stress, rather than expect people to change their behavior in order to conform with the planning.

The principle is equally applicable to organizations. The great majority should not be expected to act and/or react much differently during a disaster than they would during periods of normalcy. For example, it is useless to assume that concerns over organizational domains or territories which prevail during normal periods will suddenly disappear during disaster periods. Disaster planning must be adaptable enough to include expected organizational behaviors, rather than try to force organizations to drastically alter their activities in order to meet the requirements of planning.

As such, good disaster preparedness planning must include education and training as a key component. There is not only the need to teach one’s own group on what to expect, but the necessity of learning how others are likely to respond. A frequent error in organizational disaster planning is that planners forget that they will have to orient, train or educate other groups relative to their respective roles under disastrous circumstances. Knowing the role/responsibilities of a few key officials and planners, or the organization, is not enough. The counterpart roles of others must be clear to facilitate coordination and an integrated community disaster response (Quarantelli, 1986a).

9. Rest on valid knowledge and not myths and misconceptions.

Preparedness planning can be no better than the assumptions made about individual and organizational behavior during disasters. Unfortunately, most such planning usually takes place on an ad hoc basis and/or is based on the most recent limited disaster or minor emergency experience of the
organization or community. The planning, therefore, is not based on any systematic knowledge about behavior in disasters.

This would pose no problem if, for example, the common sense notions and assumptions made about disaster time were valid. However, social science studies in the last three decades have seriously questioned common expectations about disasters. In fact, such research has consistently shown that many popular views about disaster behavior are inaccurate (Quarantelli and Dynes, 1973; Wenger, James and Faupel, 1985). Obviously, any preparedness activity which is based on incorrect assumptions about anticipated behavior during disasters is not good planning.

There often are expectations of panic, but what occurs is rather reasonable behavior. For some reason, perhaps because of the mass communications system emphasis on the theme, many officials and others think that when people are faced with great threat or danger they will panic. This panic supposedly manifests itself in hysterical breakdowns or wild flights. Presumably, people cannot be depended upon to react intelligently and non-selfishly in situations of great personal danger.

Studies have consistently shown that this is simply not the case. People as a whole do not panic. Actual instances of hysterical breakdowns and wild flights are extremely rare, and are usually of no practical or operational importance if they occur. In fact, instead of flight away from the danger site, there is much more likely to be convergence on an impacted area. Instead of collapse into hysterical breakdowns, people actively move to do what they think has to be done in the crisis. Disaster victims are usually quite frightened, but that does not mean they will act selfishly or impulsively. They do not become unreasoning animals, but instead (one could argue) they tend to show more rationality under stress than they do normally, if by rationality is meant conscious weighing of alternative courses of action in a situation. We do not do much conscious weighing of alternatives in performing most of our daily routine behaviors.

There frequently are expectations of disorder, but what appears is a great deal of prosocial instead of antisocial behavior. To inexperienced officials and journalists, disasters are apparently seen as offering opportunities for the surfacing of antisocial behavior. It is speculated that deviant behavior will emerge and that dazed victims in the disaster area become easy targets for looting and other forms of criminal activity. Next to the supposed "panic" problem is the supposed "looting" problem. The imagery is that as Mr. Hyde will take over from Dr. Jekyll crime rates will rise and exploitative behavior will spread.

This is also an incorrect view according to the research undertaken by ourselves and others. Many stories of looting will circulate, but actual instances will be rare and if they occur will be done by outsiders rather than the impacted population itself. Far more material will be freely donated and given away than could conceivably be looted. In actuality, prosocial rather than antisocial behavior is a dominant characteristic of the emergency time period of a disaster. Crime rates will usually drop.
Exploitative behavior is only likely to be seen in relatively rare instances of profiteering after the immediate emergency period is over. If disasters unleash anything, it is not the criminal in us, but the altruistic.

There also may be expectations of dependency among planners, but what develops instead is considerable self and small-group initiative. There is a tendency in disaster planning to assume that disasters leave large numbers of people dazed, shocked, and unable to cope with the new realities of the community crisis. The assumption is that victims are so disoriented and demoralized that they will need outsiders to do the most elementary tasks for them, such as being fed, housed, and clothed. If the previously discussed expectation of disorder is based on a Dr. Jekyll and Mr. Hyde view of human beings, the expectation of dependency is based on a Big Brother image. If Big Brother does not step in, nothing, it is assumed, will happen.

We, and other researchers, have also found that this expectation too is quite false. Those who experience disasters are not immobilized by even the most catastrophic of events. They are neither devoid of initiative nor passively expectant that others will take care of them and their needs. Usually, before the full impact is over, search and rescue efforts are initiated by neighbors, and the injured are brought to hospitals. Shelter is actively sought and offered by kin and friends. In fact, the evidence is substantial and consistent that far from even seeking, and much less depending upon, formal relief and welfare organizations, these are among the last sources that the vast majority of victims will turn to for help. In a disaster, self- and kin-help and mutual informal initiative and assistance will dominate (Quarantelli, 1984c).

Thus, if planning assumes panic, disorder and passivity as the dominant behavioral features which will appear at the height of a disaster impact, an incorrect starting point will have been taken. Good preparedness planning instead works with the idea that those impacted by community disasters will generally be calm, orderly, and able to take initiatives (Quarantelli, 1986/1987).

Just as there are mythologies about human behavior in disasters, there are also misconceptions about organizational behavior. For example, there are widespread beliefs that communication problems stem mostly from technological failures, that there is considerable breakdown of authority, or that coordination can be brought about by centralizing control. These too are mistaken notions. We do not have the time and space in this paper to elaborate on these and other misconceptions about organizational behaviors in disasters; they are discussed elsewhere (Quarantelli and Dynes, 1976). But the important point is that beliefs in mythologies about organizations in disasters are as undermining of good planning as incorrect assumptions about human behavior under great stress.

Unfortunately, lurking in the thinking of many officials and even the public generally, there is a rather negative view of the masses or the urban proletariat. We do not have time here to illustrate or much less
document how urban dwellers, especially those from the lower socioeconomic strata, have been consistently viewed as the source and locus of much everyday deviant, anti-social, criminal behavior (an idea intellectually discussed as far back certainly as far as Scipio Sighele and Gustave LeBon at the turn of the century; see also Rude 1963, 1964).

If this is the everyday belief, it follows there would be considerable concern about the breakdown of the social order at times of disasters. The grain of truth in the everyday perception, in the sense that anti-social behavior is more likely in certain lower social strata in cities, makes it especially difficult to convince community officials that there might be less surfacing of anti-social tendencies during a disaster emergency than during normal times.

10. **Use the best social scientific knowledge possible.**

Planning for disasters can be no better than the knowledge base from which it is derived. Too many officials in emergency management organizations accept planning in principle but do not, or cannot, recognize the fact that they do not approach it using the best possible knowledge base. Planning cannot be based solely or primarily on common sense notions. As discussed earlier, many popular views incorporate myths about human behavior under extreme stress. For example, social science research has found that because the image of victim-dependency is so widespread, considerable organizational effort is expended on planning mass shelters which will not be used (except under exceptional circumstances) since victims seek and are given sheltering assistance by friends and relatives.

It is also not possible to adequately prepare for disasters solely on the basis of one or two personal experiences! There are dangerous limitations to such an approach. Organizational officials are unlikely to have direct personal experience with very many disasters. Thus, any idiosyncratic features of a particular disaster may be mistaken as universal characteristics of all disasters. There is also a tendency to make broad generalizations based upon personal experiences with one or a few disaster agents and to apply these generalizations to the full spectrum of possible catastrophes.

In addition, planners show a strong tendency to rely too heavily on past experiences rather than to make projections about what might happen in the future. It is often said that generals learn how to fight very well under the conditions presented by the last war, but not an upcoming one. The same can be said of some disaster planners. They learn well how to cope with the last disaster they encountered, but are vulnerable to different kinds of disasters or new threats. Additionally, due to the lack of a broad perspective, it is not always possible to derive meaningful lessons from personal experiences. For example, rather than recognizing a perceived absence of panic as a general human tendency, often it is attributed to one's own unique stable qualities or the sterling (but exceptional) characteristics of the impacted population. Finally, it is never easy for organizational officials to make an impartial evaluation of the actions of their own group. Too often, after-action reports are post hoc
defenses or justifications of what the agency did rather than a candid assessment of either the problems encountered or the mistakes made.

A direct personal or organizational disaster experience is less useful for disaster planning purposes than is often recognized. Before such experiences can be utilized, they must be seriously analyzed and their limitations explicitly stated. It is, therefore, possible for some officials within emergency management organizations to be involved in several disasters yet demonstrate by their actions that they learned very little. In essence, the events to which they refer are not conducive for deriving general principles. Just as military "war stories" contribute nothing to military planning strategy, disaster "war stories" are seldom useful in developing preparedness planning strategies.

The most adequate knowledge base for planning purposes is grounded in as wide a range of as many disasters as possible, involves a systematic and objective examination of what occurs, and attempts to draw general principles and theoretical models from the information available. This is what scientific research in the disaster area attempts. Until the last few decades, disaster planners could justifiably say there were very few social scientific studies which could be used. This excuse is no longer legitimate. There now exists a body of social scientific knowledge very applicable to disaster planning (Quarantelli, 1988b).

Disaster Managing

We would be amiss if we stopped our discussion at this point because it might imply that if the criteria were all met, we would then have good preparedness planning and good managing of community disasters. Unfortunately this is not and can not be the case. There are some major differences between the preparing for and the managing of a disaster. The principles of disaster preparedness planning are not the same as the principles of emergency time crises management. So while preparedness planning is necessary, it is not sufficient to insure good emergency time disaster management.

The distinction perhaps can be understood by drawing a parallel to the distinction made in the military area between strategy and tactics. In general, strategy has reference to the overall approach to a major problem or basic objective. But there are always specific situational contingencies or factors which have to be taken into account in particular circumstances. This the military considers the province of tactics. Thus, if we think in parallel terms, we can equate good disaster preparedness planning with the best strategy that could be followed in readying a community for a sudden disaster, while good managing involves the best tactics which could be used to handle particular contingencies in the emergency time period of a specific disaster.

Generally it is impossible to indicate ahead of time the specific tactics which will have to be used in an actual crises, since almost by definition, they will be relatively specific to the actual emergency that develops. However, just as the military finds it possible to discuss
tactical principles, disaster researchers can point to some of the tactical considerations which are involved in efficient and effective disaster management. Since we have written on this matter in detail elsewhere, here we will only mention some fundamental points (see Quarantelli, 1988a).

Good managing of disaster preparedness planning also can be evaluated in terms of certain criteria. We can judge that the management is good if it results in the:

1. efficient mobilization of personnel and resources;
2. the adequate processing of information between and within organizations, from and to the public, and within systems of organizations;
3. the effective exercise of authority; and
4. the development of coordination despite the lack of consensus regarding the meaning of the term, the inevitable strained relationships between organizations working on common but new emergency related tasks, and inherent difficulties in achieving any long lasting overall coordination.

In many respects these involve the same kinds of problems any organization would have in managing any program. Researchers, for example, usually recognize that planning a study is different from managing a project carrying out the research. Managing issues appear to have less disaster-specific problems associated with them than those involved in preparedness planning. But future studies will have to establish if the low probability/high impact nature of disaster occasions introduce elements into the managing process which might make it different from everyday managing.

If the above are well handled, we are likely to have good managing of disaster preparedness planning activities. However, disaster studies in the last 30 years indicate that there are limits to both planning and managing. The limits, which would have to be the subject of another paper if they were discussed in detail, are created by such factors as economic and social costs, human and societal value priorities, poor design implementations, and political considerations. Put another way, because there might be knowledge and understanding of what constitutes good planning and managing does not mean that is what will be in place at any given place in any given time. To draw a parallel, we know in one sense of the term how the further spread of AIDS could be completely prevented; we equally know that will not happen. We may know what is the very best planning and managing for disaster preparedness, but we equally know that is not what will exist in reality.

We mention this in conclusion to stress that any evaluation of disaster preparedness planning and managing must operate in a real, not an ideal, world. Idealistic conceptions should provide us goals. But if we are to improve planning for disasters we have to be realistic, both in terms of recognizing what really exists and what can be realistically achieved.
REFERENCES

Barton, Allen

Drabek, Thomas

Dynes, Russell R.

Dynes, Russell R.
1974 Organized Behavior in Disaster. Newark, DE: Disaster Research Center, University of Delaware.

Dynes, Russell R., B. DeMarchi, and Carlo Pelanda (eds.)

Dynes, Russell R., E. L. Quarantelli, and G. Kreps
1981 A Perspective on Disaster Planning. Newark, DE: Disaster Research Center, University of Delaware.

Forrest, Thomas R.

Jensen, Lois

Nash, Jay Robert
1976 Darkest Hours. Chicago: Nelson-Hall

Quarantelli, E. L.

Quarantelli, E. L.

Quarantelli, E. L.
1983 Delivery of Emergency Medical Services in Disasters: Assumptions and Realities. Newark, DE: Disaster Research Center, University of Delaware.
Quarantelli, E. L.

Quarantelli, E. L.
1984b Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Newark, DE: Disaster Research Center, University of Delaware.

Quarantelli, E. L.
1984c Sheltering and Housing After Major Community Disasters: Case Studies and General Observations. Newark, DE: Disaster Research Center, University of Delaware.

Quarantelli, E. L.
1985a Organizational Behavior in Disasters and Implications for Disaster Planning, (Report series #18). Newark, DE: Disaster Research Center, University of Delaware.

Quarantelli, E. L.

Quarantelli, E. L.

Quarantelli, E. L.
1986b "Research Findings on Organizational Behavior in Disasters and Their Applicability in Developing Countries," (Preliminary Paper #107). Newark, DE: Disaster Research Center, University of Delaware.

Quarantelli, E. L.

Quarantelli, E. L.

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

Quarantelli, E. L. and R. Dynes  

Quarantelli, E. L. and D. Wenger  

Rude, George  


Wenger, Dennis, T. James and C. Faupel  