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MAJOR CRITERIA FOR JUDGING DISASTER PLANNING AND MANAGING THEIR APPLICABILITY IN DEVELOPING SOCIETIES

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ABSTRACT

The paper discusses what is important in preparing for and managing disaster occasions. The starting point is that what is crucial is not planning or managing per se since there is always a degree of both, but good planning and managing. It is after all possible to have bad instances of both. Thus, to assess in any intelligent way the preparedness planning for and the managing of disasters requires asking the question: What is good planning and managing?

We attempt to answer this question on the basis of the results of the empirical research undertaken by social and behavioral scientists over what is now a 40 year period. This research cuts across natural and technological disasters and since it essentially shows that no significant behavioral differences in the two types of crises, we do not discuss any distinction in the two occasions.

First, we discuss rather extensively ten general principles of good disaster planning. Our basic point is that any planning can be evaluated as being good or bad depending on how well it meets the ten criteria discussed. Such an evaluation can be made even prior to any disaster occasion.

This discussion is followed with a presentation of ten general principles of disaster managing. This is done because our view is that an evaluation of the management of a disaster has to use somewhat different criteria than those applied to preparedness planning. Good management does not automatically follow even from good planning since there is only a partial correlation between the two processes.

The paper concludes with noting that the greater part of the research studies we used has been done in developed countries rather than developing ones. Thus, we first discuss some possible disaster-related differences between the two kinds of social systems. Our general conclusion is that the 20 principles derived mostly from studies in developed societies are in varying degrees applicable to developing countries.

INTRODUCTION

In this paper we address what is important in preparing for and managing disaster occasions. Our starting point is that what is crucial is not planning or managing, but good planning and managing. It is after all possible to have bad instances of both. Thus, to assess in an intelligent way the preparedness planning for and the managing of disasters requires asking the question: *what is good planning and managing?*

It would be possible to advance an ideal version of what should be, but we prefer to root our answer to the question in the empirical research already undertaken by social and behavioral scientists. Although we use many specific findings of the Disaster Research Center (**DRC**) since it initiated studies in 1963, our general observations and conclusions primarily come from the larger body of scientific knowledge accumulated in about four decades of research (for general summaries of the literature see, Kreps 1984, 1989; Drabek 1986; Dynes, DeMarchi and Pelanda 1987; Auf der Heide 1989; Quarantelli and Pelanda 1989; Lagadec 1990; Drabek and Hoetmer 1991, Clarke and Short 1993; Oliver-Smith 1993; Quarantelli and Popov 1993: Cutter 1994; Dynes and Tierney 1994)

This research cuts across natural and technological disasters and since it essentially shows that no significant behavioral differences appear in the two types of crises, we do not discuss any distinction in the two occasions. On the other hand, the literature is much stronger on studies done in developed countries than in developing countries. This does raise the question, addressed later, if this is significant for the use and application of the research findings in both kinds of societies. Also, in this paper we primarily discuss disasters and not catastrophes; the latter occasions are as qualitatively different from disasters as the latter are from everyday emergencies and in some ways require somewhat different planning and managing (Quarantelli 1994).

We first discuss ten general principles of disaster planning. Our basic point is that any planning can be evaluated as being good or bad depending on how well it meets the ten criteria discussed

This discussion is followed with a presentation of ten general principles of disaster managing. This is done because our view is that an evaluation of the management of a disaster has to use different criteria than those applied to preparedness planning.

The paper concludes with an examination of whether the twenty principles derived mostly from studies in developed societies are equally applicable to developing societies

DISASTER PLANNING

Our concern in this paper is with planning for community disasters. Although the vast majority of disasters impact communities, not all do. For instance, there are some plane crashes, train wrecks, and other kinds of transportation mishaps that occur far away from inhabited areas (Quarantelli 1980); the same is true of many pipeline accidents These can result in disasters (when such occasions are not equated only with occasions creating casualties), but their characteristics and

consequences do differ somewhat from what appears in a disaster that directly impacts a community, and as such require slightly different planning and managing. For instance, survivors of plane crashes do not have the social support that victims of community disasters usually are given and that is important for mental health (see Quarantelli 1985a).

Our analysis of the literature shows that appropriate community disaster preparedness planning is that which meets the following ten criteria. That is, from any assessment or evaluative point of view, the planning to be adequate and good should have these characteristics. Other features probably contribute to good planning also. But the studies undertaken by social and behavioral science disaster researchers indicate that the implementation of the ten principles discussed are necessary, if not sufficient, for the best planning for community disasters.

Good community disaster planning must:

1. Focus on the planning process rather than the production of a written document.

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

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

Thus, when 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 citizens 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 of 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 that should be undertaken to improve the efficiency and effectiveness of a community disaster response (Quarantelli 1985b)

The creation of disaster relevant human resources or the reduction of organizational problems in crises cannot be achieved just by writing a plan. For example, converting disaster victims into potential helping resources in an emergency time period must involve public education, training techniques, etc Similarly, reducing the response-generated problems (discussed later) 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.

Therefore, if the writing of plans is the major focus, it can be assumed that the planning will not be good. Unfortunately, the more a society is developed, peopled as they are by hordes of bureaucracies, a focus on the planning process rather than plans can be especially difficult to achieve. Bureaucracies live on paperwork; often the very viability of such entities 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 even though such a focus is necessary for good preparedness planning.

2. Recognize that disasters are both quantitatively and qualitatively different from minor emergencies and everyday crises.

On a daily basis, most accident and safety oriented community organizations in all societies learn to deal relatively effectively with minor emergencies. Thus, routinized responses to accidents are typically a normal part of the everyday activities of such organizations as the public utilities, hospitals, airlines, fire and police departments, cable systems, railroads, and the chemical and nuclear industry. They have standard operating procedures (**SOPs**) to manage such situations when they arise. Frequently these organizations have highly skilled personnel who are adept at coping with everyday disruptions and minor accidents.

Unfortunately, this often leads to the collective belief that a disaster can be approached as merely a very large scale traffic accident. In a nationwide study of the chemical industry in the United States, **DRC** found that many officials felt that preparedness planning for acute toxic releases, chemical explosions, and other mishaps required 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, **DRC** interviews with EMS personnel showed that it was the opinion of some that special preparedness planning was unnecessary because they saw the provision of **EMS** in disasters as but an extension of **EMS** in daily operations, with the only difference in the two situations being one of degree (Quarantelli 1983a).

These and often similarly strongly voiced views, 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 that is qualitatively different This has to be considered when planning for disasters, training for disaster occasions, operating under disastrous conditions, and evaluating group or organizational activity during such occasions. An accident should not be perceived as a little disaster, nor should a disaster be viewed as a big accident!

This important distinction has just not come out of social science research. Some organizations and communities also recognize that such differences exist. For example, most public utility companies in the United States carefully distinguish between. (1) accidents or emergencies (e g , everyday localized breakdowns that can be handled by local resources and personnel); and (2) disasters and catastrophes (e.g., far statistically rarer happenings that require external aid because local resources cannot cope with the acute demands) These companies 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 plan using the fact that such differences do exist.

The following four examples illustrate major qualitative and behavioral differences between disasters and everyday emergencies.

(1) During community disasters, organizations are forced into more and different kinds of interactions with other groups. The number of converging organizations is far larger than most think. For example, a Canadian research team in a study of a massive fire near Nanticoke, Canada identified 346 organizations that were on site, that is being at the scene of the fire, inside the evacuation perimeter or having to pass through a police check point in order to get involved (Scanlon 1992: 9)

The greater the number of organizations involved, the greater the number of contacts and the more new relationships with other groups need to 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 distant 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. However, during a disaster there is little time available to adjust, for example, to the blurring of interorganizational boundaries, or to the informal sharing or pooling of personnel, tasks, and equipment--common features of major disasters, but absent in minor emergencies. Complicating the greater interdependence in such occasions 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.

(2) 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, the protection needed from life-threatening situations usually becomes the responsibility of certain 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 rarer situations the military, especially in developing countries, may sometime take over disaster operations. However, in the 1985 Mexico City earthquake, the Mexican Army was not given the major responsibility in the capital city although the disaster plans in place might have allowed that to occur (Dynes, Quarantelli, Wenger 1990). This is typical of developed countries where civil control over any military operation is maintained even during disasters.

In any case, the normal everyday autonomy of organizations is curtailed everywhere in major disasters. As a direct result of the loss of organizational autonomy, daily activities that are taken for granted become problematical. 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 can be actually be vested in an outside agency such as a state or regional hazardous materials response team, or in the United States to a Federal agency such as the Environmental Protection Agency (**EPA**). Additionally, many national or international corporations will often intervene during disasters and assume responsibilities, make decisions, or set policies that normally would be the prerogative of the local plant, office, or operation. In short, organizations can have their autonomy preempted in disasters in a way that will not occur during minor emergencies.

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

For example, standard operating procedures (**SOPs**) for fire service professionals everywhere require a swift response to emergencies involving structural fires. However, it is recognized that firefighters should respond differently to fire-related emergencies involving unidentified chemical substances or materials whose properties are not fully understood. Thus, delaying of the response until the situation is clarified is what is called for in good disaster planning. In fact, by using daily performance criteria as a basis for determining the type of response required to control hazardous chemical incidents, some fire departments can unintentionally turn minor chemical accidents into major chemical disasters. Similarly, emergency medical service professionals normally have **SOPs** that emphasize quick response time and swift delivery of patients to hospitals. However, when handling large numbers of casualties, such routine operations should be preempted by special procedures. For example, good disaster planning frequently requires the triaging of victims and the judicious distribution of injured persons to area hospitals to avoid overcrowding of emergency rooms and other risks associated with delays in emergency care due to overloading of hospital staff and substandard medical care.

Thus, performance criteria used during daily routine operations frequently yield to the adoption of different disaster performance criteria during major crisis occasions. As is the case when fire professionals are faced with crises, emergency medical services systems that use daily performance criteria as a basis for determining their actions has resulted in inadequate and inappropriate responses to mass casualty incidents. Under the pressure of disaster-related demands, emphasis on speed of response and "snatch and run" procedures are not appropriate response managing principles. In

short, disasters require different types of organizational performance than do minor emergencies

(4) A minor emergency is often managed by an organization (public or private) having responsibility or authority to effectuate an emergency response, or is managed by local organizations such as the police and/or fire department. Under emergency conditions, the crossing of boundaries between public and private sector organizations is seldom required. However, during disasters a more coordinated relationship among public and private sector organizations is necessary for good managing of the crisis. Thus, a disaster requires the mobilization of public or community resources and often requires the preempting of some private rights by public rights. For example, unrestricted entry onto private property, which in many societies 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 temporary levees of the dynamiting of buildings in the path of a fire) is often permissible without negative or illegal consequences.

Although legally questionable in many societies, the requisitioning of private goods and/or equipment for the public good is also typically an acceptable practice during major disasters. Such actions are not necessarily restricted to the public or governmental requisitioning of private goods. It can 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 citizen or public expectations and demands for goods and services from the private sector that 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, various governmental subunits have different claims of "ownership" (i.e., control) of different properties. So even in these societies, at times of disasters, there is likely to be a melding and blurring of who "owns" what in the use of property.

To summarize, during disasters organizations are often faced with a new set of circumstances with which they must cope. They have to: (1) quickly relate to more and different groups and other organizations; (2) adjust to losing a part of their autonomy; (3) apply different performance standards; and (4) operate within a closer public and private sector interface. Therefore, 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.

3. Be generic rather than agent specific.

Although some change is occurring, it does seem that much current disaster planning everywhere is agent specific rather than being primarily generic or general. However, research shows good planning

should take the latter rather than the former position. Because something is very widely believed or done is no indication of the correctness of a particular point of view

There is a tendency to organize separate planning around quite specific disaster agents Thus, in many places there frequently is separate planning for chemical hazards, separate planning for nuclear plants, separate planning for flood threats, and so on. The planning is segregated, with usually distinctive organizations for preparing and responding to the separately viewed threats or impacts.

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

For very many 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 messages will be effective, what will limit the acceptance of a warning, and so on will be the same in all cases (Perry 1983). These human aspects of a disaster do not depend on the specific type of disaster agent involved.

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. For example, **DRC** research 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 appropriately used Likewise, studies have shown that ordinary citizen survivors 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 negative mental health consequences for those who engage in such activities In these and other matters the specific disaster agent involved in the occasion does not matter very much for managing the occasion.

Disasters do differ from one another. Yet 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 For example, 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 (e g , most earthquakes and explosions do not allow any forewarning and/or evacuation before impact). Conversely, certain physically "similar" disaster agents can have dissimilar effects for the purposes of disaster planning (e.g , "chemical" agents can explode, burn, asphyxiate, pollute, and differentially affect humans, animals, fauna and the ecological spectrum)

Given all this, it is not surprising that studies 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 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 distinctive aspects of certain specific kinds of disaster agents (such as how to decontaminate a radiated area), but primary emphasis should be on generic or general disaster planning.

As to other advantages, we should also note that general or generic disaster planning in contrast to specific agent planning is:

(1) cost-efficient in terms of expenditure of time, effort, money, personnel and resources,
(2) a politically better strategy because it is possible to collectively 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 good process for increasing efficiency as well as effectiveness in any organized response to a disaster.

There are of course major reasons why generic as compared to agent specific planning is difficult to implement. Some have to do with practical matters (see Waugh 1990); others stem from a lack of understanding of what research has shown. Since the latter in particular have been discussed in detail elsewhere (especially in **DRC** publications) they will not be further considered here

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

In many countries there is a strong tendency to assume that disaster planning can borrow much from military situations and settings. Thus, it is often thought that the best model for disaster organizational preparedness and managing is what has been called a "command-and-control" model. This is the notion supposedly taken from the military area that a top down, rigidly controlled, and highly structured social organization model ought to be developed for disaster purposes (see the extended discussion of this in Dynes 1983)

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 (see Lanir 1988; Rochlin 1988). 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. (A major exception might be in a catastrophic disaster 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 that 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 locality Planning efforts are thus directed at the creation of strong authority to overcome the supposedly social disintegrating effects created by the disaster agent.

Planning in this mistaken model is oriented towards creating new norms for individuals undertaking emergency behaviors For example, spontaneous evacuation behavior is frequently seen as inappropriate or as a manifestation of irrational actions by 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 families, will be incapable of coping or remedying such crises. Thus, it is assumed new structures are needed to replace the old ones that 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 that 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 (for a further discussion of these matters, see Dynes 1993).

This kind of planning effort, both consciously and unconsciously, is oriented to creating a highly artificial and authoritarian structure to replace natural and spontaneous behavior and structure. This is because a natural and spontaneous response is viewed as incapable of being effective in the stress conditions created by disasters. 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 should adjust.

However, the research evidence points in a drastically different direction. We later show that in disasters there is less discontinuity with everyday life than is frequently supposed. Also, rather than exhibiting irrational and abnormal behavior, disaster victims, as much as possible, maintain their traditional activities and 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 nonfunctional even in the worst of disasters unless they were poorly run before impact (catastrophes are a different story).

Thus, in good disaster planning, rather than attempting to centralize authority, it is far more appropriate to develop an emergent resource coordination model The problem is one of coordination, not control. Disasters have implications for many different segments of social life and the community, each with their own preexisting 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 suggests that the exercise of authority or asking and worrying about" who is in charge?" is more of a problem in the minds of preparedness planners than a real problem in disasters.

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, trying to spell out every possibility. 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. Furthermore, complex and detailed planning is generally forbidding to most potential users and will end up being ignored.

Therefore, while disaster planning cannot totally ignore specifics, particularly at the organizational level, good preparedness planning should be based upon the formulation of general principles from which simple rather than complex points can be developed. Even apart from written plans, all disaster planning should aim at general rather than specific details. For example, within the context of the disaster literature that discusses the problems surrounding organizational coordination, good preparedness planning must consider the fact that during crises 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 are unlike those 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 that might conceivably develop. Instead, the planning point advanced ought to be that in a disaster there should be an expectation that many social players on the scene will be unknown to key local officials. This may not appear to be that helpful but as the say goes: Forewarned forearmed.

Finally, good planning requires accepting the belief that there are principles of good planning. Few persons 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 no 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. <u>Be based on what is likely to happen.</u>

Planning of course has to focus on what might happen in the future. Unfortunately, it is too often based on what has happened in the past. But the future will not be the past repeated. No disaster will ever repeat a previous one. More generally, we have discussed elsewhere in detail how it is inevitable that we will have more and worse disasters in the decades to come, because the very nature of social life are increasing both disaster agents and the vulnerabilities of the possibly impacted communities. For example, we have to start preparing for new kinds of disasters in computer operations as well as in the biogenetic or biotechnology areas, and also for disasters that will have their sources in one place and their effects in distant places such as in the radiation fallout in many European countries from the Chernobyl nuclear plant accident in the former Soviet Union. Likewise, the means and ways of coping with disasters can and do change, in some cases improving or in other cases decreasing the capability to prepare for disaster occasions. In that sense, planning which focuses more on the past, even actual past disasters, will not be as good as that which projects what are likely to be future disastrous occasions, both in the short and long run.

However, disaster planning is also frequently weak in another sense when it projects into the future. That is, there is not a focus on what is realistically likely to happen. Too often the organizations involved project what they would ideally like to happen. Agencies and groups in the disaster area are no different from such social entities in any sphere of life. Thus, they tend to plan from perspective of the organization and what is most traditional and convenient for itself. One consequence of this is a strong tendency to develop disaster planing that requires citizens to change their behavior more than necessitating the group to change its own behavior

A personal story illustrates this point well. Once we were asked by the US National Weather Service to come to a meeting to discuss the question of why citizers did not pay enough attention to the warning messages issued by the Service. We said we would go to the conference but the question asked was backwards. It should be asked: why does the US Weather Service not issue warnings that citizens can pay attention to in a serious way. The problem in our view was in the organization, not the people it was supposedly serving. While it was traditional and convenient to issue very technically correct warnings, the language used and emphasis was meaningless to most citizens. At the meeting we said that if warnings were to become more effective, the Weather Service had to change its behavior and to stop trying to force people to learn what was jargon and technical language, incomprehensible to the average person. To its credit, in this particular instance, the Weather Service did eventually partly change its approach. It took into account the perspective of citizens. Of course their disaster planning became more complex and difficult because they had to change some of their own organizational behavior, especially what they put into warning messages. The language used was that which the average person could understand, and not some technical jargon.

This example illustrates our more general point that good planning must be based on what realistically is likely to happen. Thus, it is far better to plan on the basis of how people and groups are normally likely to react 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 expected behavior under stress, rather than expecting people to change their behavior in order to conform with the planning. Planning must be adjusted to people rather than expecting people to adjust to the planning.

The principle is equally applicable to organizations. Most of them 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 disasters. For example, long standing police-fire department conflicts or suspicions that the military is ready to extend its sphere of influence, will not vanish at the emergency time period of disasters. The planning must be adaptable enough to include <u>expected</u> organizational behaviors, rather than trying to force organizations to drastically alter their activities in order to meet the requirements of planning.

7. <u>Be vertically and horizontally integrated.</u>

Good planning uses 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 disaster occasions usually precipitate a community mass assault on the problem. Studies by ourselves and others have, in fact,

consistently reported that local emergency personnel are consistently surprised at the number and diversity of responders both from within and outside the community that 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 regrettably there tends to be fragmentation of local disaster preparedness planning. In the United States, there frequently are three different clusters of planners who have little contact with one another. Now in other societies, the clustering may differ in number and composition but typically there are usually unintegrated clusters of groups involved in local disaster planning. Frequently there is the planning organized by and around the social control agencies such as the police, that clustered around hospitals and other medical institutions, and in recent years, increasingly there is the disaster planning being separately undertaken by groups in the nuclear power and the chemical industries, which in many countries are also part of the private sector. In some developing societies too the military often has its own separate disaster planning frequently totally unrelated to any local effort

But good preparedness planning requires an overall and integrated effort by all germane organizations All relevant sectors of the community, public and private, not only need to be involved but their various proposed courses of action need to be tied to one another. Disasters do not impact only one sector or segment of a community; in fact a disaster involves a disruption of community life across-the-board. Therefore, from an organizational point of view, planning also has to be across-the-board, involving all groups who will have some managing role in a disaster response, including nonlocal ones.

Among other things this means that good disaster planning is both vertically and horizontally integrated. That is, planning of different governmental--and where relevant, non governmental--levels must be linked and integrated with one another. National level planning for disasters, and that at the regional or provincial levels, and at the community level need to be consistent with and reinforcing one another. In fact, the planning in the four different time phases of disasters should not be done independent of one another (e.g., if in a recovery period evacuees continue to be sheltered in a flood plain, this creates a disincentive for mitigation measures that would bar occupancy of such areas).

As such, good disaster preparedness planning must include, in the larger sense of the term, education as a key component. Planning requires educating oneself and others. There is not only a need to teach one's own group on what to expect and to do, but there is also the necessity of learning how others intend to respond. A frequent error in organizational disaster planning is that planners forget that they will have to educate other groups about their respective roles in disastrous occasions 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.

Furthermore, any overall integrated effort needs to be continually reviewed and updated. Community organizations come and go; others change their personnel or top officials, still others may be given new functions or have old ones taken away. All such modifications/changes can seriously undermine even previously agreed upon roles in disaster planning. Without ongoing review and making of

revisions what once might have been good planning may become a paper shell without substance.

8. Strive to evoke appropriate actions by anticipating likely problems and possible solutions or options.

While sometimes planning can be oriented to prevention (such as when mitigation measures are planned), most emergency time planning has to be directed toward altering or modifying what will happen. Planning should therefore indicate the range of problems that might 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, it is possible to 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 that have to be considered. It not only narrows the range of problems that need to be anticipated, but also lessens the number of optional solutions that 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 crises. 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.

Of course, planning for appropriate actions cannot start from a poor practical or theoretical base. Too often, the personal experience of an official becomes the basis of the disaster planning. This is very bad. It is not possible to adequately prepare for disasters solely on the basis of one or two personal experiences! There are very serious limitations to such an approach. Organizational officials are unlikely to have direct personal experience with many disasters. Thus, idiosyncratic features of a particular occasion may be mistaken as universal characteristic of all crises. There is also a tendency to extrapolate or make broad generalizations based upon personal experiences with one or two disaster agents and to apply the generalizations to the full spectrum of possible disasters.