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PROBLEMS IN DISASTER PREPAREDNESS AND RESPONSE:
A COMMENTARY FOR A CONFERENCE IN A DEVELOPING
COUNTRY*

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Systematic studies into both disaster preparedness and response have demonstrated that much of what is widely and commonly believed about disaster planning is incorrect or mistaken.

That will be the general theme of my remarks--much of the planning for disasters undertaken by organizations and communities is, unfortunately, of the wrong kind.

Background

To understand our general point, we first have to clarify what we mean by disaster and by planning.

Simply defined, disasters are those relatively sudden crisis events which cannot be dealt with by ordinary measures or routines.

Some types of emergencies which occur with some frequency, such as isolated fires or single traffic accidents, are usually dealt with by routinized procedures, e.g. by the dispatching of a fire truck or the sending of an ambulance or two.

These kinds of routine emergencies do not constitute disasters.

Instead, disasters are those events which cannot be handled by routinized procedures--they require extraordinary procedures and resources.

Disasters can be generated by (1) natural agents--so called "acts of God" such as cyclones/typhoons/hurricanes, river floods, earthquakes, volcanic eruptions, etc. and by (2) human errors or technical accidents involving hazardous chemicals, dangerous radioactive substances, malfunctioning of lifelines as in electric power blackouts, massive fires in high-rise buildings, etc.

In most of the research undertaken by self designated disaster researchers, disasters are considered different from such other crisis situations which are the result of conscious or deliberate intent to occasion damage, destruction, and suffering--such conflict situations as wars, revolutions, major riots, terrorist attacks, and so on.

So, in overall terms, disasters are relatively sudden non-conflict types of crisis situations which cannot be handled by routine emergency procedures.

Now let me say a few words about the focus of the kind of planning we will be discussing. Disasters always occur in some time frame. Studies have found it useful to distinguish four interrelated phases or stages organized along a time continuum.

The first phase has references to <u>mitigation</u>.

Simply put, mitigation has references to planning which aims at eliminating or reducing the probability of the occurrance of a disasterous event. Examples would be cloud seeding to prevent the formation of a cyclone or typhoon, or land use regulations to prevent or discourage building and living in flood plains.

The second phase has reference to preparedness.

Preparedness refers to planning activities which would minimize disaster impacts and damages. Examples of preparedness measures would be the development of warning systems to provide information on appropriate behavior to avoid injury whether from a toxic chemical explosion or the flood from a dam collapse. Preparedness also involves the adequate training of emergency organization workers.

The third phase has reference to emergency response.

This has reference to planned actions intended to provide the most efficient and effective behavior in the face of an actual or threatening impact.

Examples would be planning which would insure, for example, the emergence of temporary groupings to insure adequate search and rescue in an earthquake or an explosion resulting from the wreck of a truck or train carrying extremely dangerous chemicals.

The activities involved in the second and third phase, preparedness and response, are the focus of the present paper.

The fourth phase, recovery, has reference to those planning activities intended to move toward the reestablishment of routine community life. Examples of recovery would be the reestablishment of a devastated area or the permanent rehousing of evacuees after a catastrophe.

While it is possible to talk of the four phases separately, in actual fact they are, or at least should be related to one another. For example, in the recovery phase evacuees relocated from their damaged homes near dangerous chemical complexes or earthquake faults, not only contributes to recovery but actually involves mitigation measures.

At any rate, disaster planning can and should be aimed at preventing, preparing for, responding to, and recovering from disasters. Too often the focus is only on one phase. There is a strong tendency to ignore the links and relationships between the different activities or phases.

The Research Background

What are the problems in disaster planning?

Up to about two decades ago, we did not even have educated guesses.

This is no longer true.

There is a substantial body of social and behavioral science research on how people and organizations prepare for and respond to disaster.

This research in such countries as the United States goes back to the 1950's, in Japan to the early 1960's.

At present , major studies and organized centers of research exist in about 15 countries around the world ranging from Italy and India to Mexico and Australia.

The International Research Committee on Disasters, which will be having 10 sessions on disasters in a meeting August 18-22 in New Delhi, India, has members in about 30 countries around the world, and provides an international network of disaster researchers. It also publishes a journal with the name Mass Emergencies and Disasters and a professional newsletter called Unscheduled Events.

While we do not have time at this meeting to discuss the history or the full range of findings of social science disaster research, our point here is that the remarks which follow come out of years of systematic research.

The four basic themes about problems of disaster planning that we will elaborate are:

1) 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.

2) Much disaster planning elaborates details in written plans. But studies indicate good disaster planning instead emphasizes principles of planning.

3) Much of the current disaster planning everywhere attempts to create artificial rather than natural behavioral patterns. Instead, good planning should be adjusted to the natural behavior of human beings and organizations, rather than attempting to force them to adjust to planning.

4) Much planning assumes a direct link between disaster planning and disaster management. However, social science research has shown that preparedness is only one element in the successful management of disasters.

Let me now elaborate on each of these four themes.

Generic Rather Than Agent Specific Planning

There is a tendency to organize separate planning around specific disaster agents. Thus, one finds in many areas 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 responding to disasters, the specific kind of disaster agent does <u>not</u> 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.

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. 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. 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. This 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. Conversly, certain physically "similar" disaster agents can have rather dissimilar effects for the purposes of disaster planning.

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 totally separate 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.

General disaster planning in contrast to specific agent planning is:

1) cost-efficient in terms of expenditure of time, effort, money, and re-
   sources;

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.

There is no more time here to document further that an all hazard approach
to disaster planning is better than an agent specific approach. But social
science evidence on this is substantial.

Principles of Planning Rather Than Detailed Disaster Plans

A generic or multi-hazard approach to planning also suggests that focus
should be on generalized principles of planning rather than details. In fact,
very detailed written disaster plans can actually be dangerous. They can
create the illusion that an organization or community is prepared for disasters.
Social science research indicates that such preparation is more likely if
principles of planning such as the following six are emphasized.

1) Good planning attempts to reduce the unknowns in a problematical situation.

While in some instances planning can be oriented to prevention, most plan-
ning has to be directed toward altering or modifying what will happen. Plan-
ning should indicate the range of problems which will occur and a range of
possible solutions to them. There, good planning reduces the uncertainties
of mass emergencies, but it is unwise to assume that everything can be antici-
pated or that all of the unknowns can be accurately predicted ahead of time.

2) Good planning aims at evoking appropriate actions.

Sometime planning is viewed primarily as a mechanism for speeding up
disaster responses. This can be one consequence, but appropriateness of
response is much more important than speed of response. For example, it is
almost always more crucial to obtain valid information as to what has happened
than to take immediate action since reacting to the immediate situation is
rarely the most effective and efficient way of responding. In fact, one
objective of good planning should be to delay impulsive reactions as well
as creating appropriate actions.

3) Good planning must be based on systematic scientific knowledge.

Too much planning is based on common sense notions or popular suppositions
rather than solid evidence. Thus, it is frequently assumed, for example,

that many of the immediate problems at the heights of the emergency period of a disaster involve dealing with the uncontrolled behavior and panic of the victims. It is also usually assumed that victims will do little for themselves during that same time period. Research has found that notions of panic and victim passivity are primarily disaster "myths." Good planning must draw from the research knowledge available about disaster behavior. It cannot be based upon mythologies.

4) Good planning is based on what is most likely to happen and not on the worst scenarios possible.

Some planning likes to start with the worst possible case. Since the human imagination has little limits, it is easy to concoct extreme or worst case scenarios--in fact, with enough imagination, it is very easy to conjure up possible horrifying situations for which no planning could be useful. Studies suggest it is better to start with more likely cases. It is best, for example, to plan for a limited evacuation, which would fit a possible scenario, than to plan for a massive evacuation based on a very unlikely scenario. Catastrophes can occur, but it is better to plan for the more likely disasters in a community. Unlikely or unbelievable scenarios will not have much credibility or credence among citizens at large or important community and governmental decision makers who often have to be convinced there might be a disaster potential in a given locality. All kinds of social and psychological studies show human beings are much more motivated by hope than by fear.

5) Good planning involves educating others as well as oneself.

If planning is to work, those persons and groups that are covered by the planning must know their designated roles. The planners must learn about possible problems and solutions, and must convey to those likely to become involved what generally can be anticipated and what behaviors the participants are expected to play. It is of little use, for example, to designate certain hospitals as the major casualty receiving centers or certain roads as the major evacuation routes, unless those likely to transport victims to hospitals or unless citizens evacuating from an area know ahead of time about such planning. Planning is too often seen in the very narrow sense of completing detailed written plans or documents. However, it is far more useful to think of planning in the broader sense of a process of educating oneself and others about what might happen, what options might be available for the problems which will arise, and what might be the most efficient and effective responses.

6) Good planning is predicated on sharing information widely rather than restricting it.

There is an unfortunate tendency at times to organize planning around controlling information about a threat or an impact. The supposition is that certain kinds of information cannot be shared with the public at large or even other organizations because it is thought that others will, at best, not be able to comprehend the information, or at worst, that they will panic if informed. Apart from the arrogant, elitist view that such an approach takes, it is simply the wrong perspective to take from an empirical point

of view whether in the preparedness or response phases of disasters. Rather than trying to restrict information, planning should attempt to develop mechanisms for increasing public information as much as possible and for informing other disaster-relevant organizations also as much as possible. Citizens comprehend much more than some public or private bureaucrats give them credit for, and the notion of "panic" in the face of information is part of the mythology of disaster behavior we mentioned earlier.

The six principles of planning we have noted are not the only ones involved in good planning. However, our purpose has been to illustrate the importance of principles rather than details.

There are several reasons, the evidence of disaster studies apart, why principles are far more important than details. For example, it is impossible to anticipate all possible eventualities. Situations change constantly and specifics quickly get out of date. Too much detail gives the impression that everything is of equal value, when clearly that is not the case. A complex and detailed plan is also forbidding to potential users and usually will be ignored.

Thus, while disaster planning cannot completely ignore details, particularly at the organizational level, the focus should always be on general principles. In that sense, an aim should be to produce simple, rather than detailed, written plans. There should also be relative simplicity in other aspects of the planning process be these in training courses, public education campaigns, memoranda-of-agreement between emergency organizations, disaster simulations or field exercises, meeting agendas, and so on.

Natural Rather Than Artificial Response Patterns

Planning should be based on what people are likely to do in a disaster rather than trying to get people to behave according to plan. Much poor disaster planning is based on attempting to get human beings and groups to behave according to a plan. For example, evacuation routes are chosen because they are convenient for the police to monitor rather than because they are convenient for the evacuees. Similarly, to be effective, warnings have to be devised to be receivable by those they are intended for rather than build on an assumption that people and organizations will use a particular form of the media at a particular time when the warning is issued. Likewise, planning will frequently call for disaster time coordination by organizations that are unfamiliar with one another.

What we are trying to illustrate by these examples is that poor planning often attempts to create behavior response patterns which are artificial in the sense that they are often far from normal, everyday behaviors. Such attempts to force behavior to deviate considerably from the usual will not work too well. Good planning not only avoids trying to force people to adhere to plans, but also will attempt to insure that the expected disaster time behavior will not be too different from the normal.

Put another way, good planning attempts to evoke natural, rather than artificial, response patterns. While planning for disasters often anticipates a dramatic and unfamiliar situation, the fact is that even in disasters there

is much continuation of old routines and habits. Rather than trying to drastically change and redirect such habits, it is best to count on them as the basis for disaster planning. For example, evacuation routes should utilize familiar and usual traffic patterns. Warnings should be based on knowledge of everyday exposure to the mass media and everyday informal person-to-person communication. Planning for disaster casualties should be based on how and what people typically use and do with medical and hospital facilities and personnel.

In short, good disaster planning builds as much as possible on what already exists by way of behavior patterns. Individuals and groups will act in certain ways on an everyday basis. Good disaster planning does not try to impose artifical response patterns, that is, behavior which is very atypical, unusual or quite different from the normal.

We should note that there often is a parallel attempt to create an artificial response pattern among organizations. This is poor planning for organizations as it is for individuals. Let us briefly look at what is involved in this way of thinking about disaster planning.

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 response 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 airforces 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.

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 (the personal panic and dependency we mentioned earlier), 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.

In general, 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 panicing 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 planning is also frequently preoccupied with the development of a centralized communication and information system which can evaluate information and create official and thus correct messages which are to be communicated only 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.

This kind of planning effort, partly consciously and partly nonconsciously, 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 are to adjust.

However, the research evidence points in a different direction. We have already indicated 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 disasters.

Thus, in good disaster planning, rather than attempting to centralize authority, it is more appropriate to develop an emergent coordination model. The fact that 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, indicates it is 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 planners than a problem of life under disaster conditions.

Good disaster planning will focus on organizational coordination and the development of communication rather than the creation of authority. For this, a certain degree of emergence at the macro level might be necessary. But even this macro level organizational emergence can be partly planned, although we do not have the time here to discuss that very interesting disaster phenomena.

Disaster Management Rather Than Disaster Planning

It is very easy to assume that if there has been disaster planning, there will be successful crisis or emergency management. After all, that would seem to be the ultimate purpose of planning.

Unfortunately, however, research has shown that is far from being the case--there often is a big gap between what was planned and what actually happens in a major disaster. There is, in fact, a relatively low correlation between the undertaking of planning and the successful or good management of disasters.

The reason for this is twofold. One is that the planning can be poor in the first place. Thus, if disaster planning is specific rather than generic, if planning is too segmented or segregated rather than involving the largest social unit that is most relevant to the situation, or if the planning demands artificial or far-from-everyday activities, there will be implementation of that kind of poor planning in actual disaster situations.

Poor planning can only encourage poor management activities. This is the more obvious of the two major reasons why successful disaster management does not automatically follow from disaster planning.

Given that, we would rather take the time we have here to discuss the other reason, namely that there are principles of crisis or disaster management that are different from the principles of disaster planning. That planning is not management should be recognized, but studies of disaster have demonstrated that there is sometime a failure to distinguish between the two processes or activities, with consequent negative results.

Perhaps if we draw a parallel we can make our last point even more distinct. The military draws a distinction between strategy and tactic--in fact, they teach and try to implement the differences between the two.

Strategy, in general, has reference to the overall approach to a problem or objective. But there are always situational factors or other contingencies which require particular adjustments to attain a specific goal if the overall objective is to be attained.

This is the area of tactics. In somewhat parallel terms, good disaster planning involves the general strategies to be followed in preparing for a sudden community emergency. Good crisis or disaster management involves using particular tactics to handle the specific situational contingencies which are present or arise during the course of a disaster.

Clearly, it is usually impossible ahead of time to spell out in detail the particular tactics which have to be used because almost by definition they will be relatively specific to the actual situation encountered. Good disaster management to a considerable extent is the application of tactics which are relevant to the situational contingencies of a given disaster.

However, just as the military finds it possible to teach tactical principles as well as strategical principles, disaster researchers can point to some of the tactical considerations which are involved in effective and efficient disaster management.

We shall do this in the rest of our remarks by indicating what research has ascertained as the major management problems in community disasters.

But before turning to that, we should indicate that, contrary to some popular images, the major sources of problems in disasters are not the victims themselves. Apart from the disaster agent itself in some, but not all, cases the major sources of problems in all disasters are to be found in the organizations responding to the disaster.

If there is to be improvement in disaster planning and disaster management, it will have to come in changing the behavior of the relevant emergency organizations. Research has shown that successful disaster management results from emergency organizations coping well with certain problematical areas.

In particular, there tends to be in the typical disaster management problems with respect to:

> the communication process,
> the exercise of authority, and
> the development of coordination.

We will now discuss each of these in some detail.

1. The Communication Process

The term "communication process" is used deliberately to emphasize that this problem generally involves **what** is communicated rather than **how** communication occurs. In most cases, although admittedly not all, communication problems do not necessarily arise from equipment scarcity, damaged facilities, or other forms of destruction that result in rendering the equipment inoperable. Occasionally, during community disasters the existing means of communication are already limited. Thus, problems that arise are directly attributable to pre-disaster equipment scarcity rather than to a disaster-related loss. However, in the majority of cases, problems related to the means of communication are far less than those arising from the process of communication. That is, some physical mode of communication will exist, with resultant problems arising primarily from the improper use of existing equipment or decisions to not use the equipment. Thus, communication problems are more the result of human or social error than equipment failure.

Organizational problems associated with the communication process are evident in at least five different categories of organizational behavior:

> Intra-organizational;
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> Between organizations;
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> From organizations to the public;
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> From the public to organizations; and,
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> Within systems of organizations.

The discussion that follows examines both the mythological beliefs and the real problems of organizations in community disasters and indicates how false assumptions about organizational behavior underlie, and thus invalidate, disaster preparedness planning.

A. Intra-Organizational Communication

Organizations have to communicate internally and constantly exchange information among group members. Under normal conditions, the communication system is designed to process and exchange predetermined types and quantities of information. However, during a disaster, the number of staff using the communication system increases greatly. This is created in part by internal staffing changes undertaken by the organization to meet the demands of the crisis situation. For example, double shifts may be required or volunteers may be incorporated into the work force. Often, the existing communication system cannot accommodate the volume of information required by system users. When the extra demands upon the internal communication system exceed its capability, this results in "overload," the net result of which causes either system failure or results in the loss or delay of information to, from, and among staff members.

Communications are supposed to go through certain channels. In non-crisis situations, the flow of information follows the organizational chain-of-command. Thus, system user information needs, conditions under which information is to be exchanged, and the flow of information from the top to the bottom and vice versa, are clearly defined. However, during a disaster, the channelling of information throughout the organization becomes more complex. For example, it is not unusual for: (1) several individuals to occupy a position previously held by one person; (2) officials to assume non-routine tasks; and/or, (3) officials to be reassigned to work in temporary emergency positions within the organization. These and other factors can lead to the creation of situations where the normal channels of communication are insufficient to insure that all relevant information will reach those group members who should be informed of organizational activities.

B. Communication Between Organizations

Difficulties may develop along a second dimension--that of communication between organizations. The reasons for the occurrence of potential problems in this area are two-fold. First, in noncrisis situations, normal routine contacts between organizations proceed on an informal basis. Officials often communicate with persons with whom they are familiar, for example, acquaintances and/or friends. When a disaster occurs, changes in the organizational structure are created which call for the establishment of different types of relationships among organizations. These changes when coupled with other factors do not support an informal system of communication. New contacts must often be established and maintained with new individuals who occupy positions of authority within organizations where there had previously been no contact. Community emergencies typically precipitate new relationships among different organizations. This often requires staff members of some organizations to develop contacts with members of other organizations that were not required prior to the disaster. Given the pressures of the disaster situation, this is often difficult to accomplish. Communication between organizations will frequently not proceed under such circumstances.

C. Communication From Organizations to the General Public

A third category of problems are those associated with communication
from organizations to the general public. One major source of diffi-
culty is the inability of organizational personnel to clearly communi-
cate life-saving information to the general public during crisis
situations. Often, this results from the organization's inability
to understand that what is meaningful information to organizational
personnel is often not necessarily meaningful to persons in the endangered
area. An official group within an organization will frequently gather
detailed and general information about a disaster. Using this infor-
mation, the organization will subsequently issue an official statement
or instruction to the general public which omits the details of its
findings and other relevant information. For example, an announcement
advising people to leave a dangerous area may be stated as follows:
"Evacuate X street or Y neighborhood." Though officials may well
know the limits/boundaries of the endangered zones, the relative degree
of safety in other areas, and other details, the aforementioned in-
struction may well be the sum total of information in the public state-
ment. Thus, the public is often forced to ascertain the extent of
the danger, what is required of them during the evacuation, and where
it might be safe to relocate. Hence, all too often, organizations
which are well informed about events and potential threats assume
that their public statements will be as clear to the endangered populations
as they are to members within the organization. This is a dangerous
assumption!

D. Communication From the Public to Different Organizations

A fourth category of problems associated with organizational behavior
under stress is communication from the public to different organizations.
These problems not only arise after a disaster, but occasionally arise
during predisaster periods. For example, frequently people will bombard
organizations with requests for aid and information, will ask the
more visible public groups what should be done, where to obtain certain
things, and so forth. A frequent result is the inability of high
visibility organizations to efficiently process large volumes of infor-
mation. Typical is the effect of the flood of telephone calls to
police departments when any untoward event occurs in a community.
The police switchboard often becomes so overloaded with calls that
all communication, both within and/or outside of the organization,
is interminably delayed.

In addition to normal requests for aid and information, organizations
must respond to requests for new information. Few organizations can
effectively respond to non-routine questions. Consequently, persons
assigned to man switchboards or complaint desks often find themselves
unable to cope with the increased demands for new kinds of information
during crisis situations.

E. Communication Within Different Systems of Organizations

Often overlooked are communication problems that arise as a result

of the mobilization of different systems of organizations during
community disasters. There is a tendency to think of organizations
not as systems, but rather as components operating independently
of each other. This is not the case. Often, there are sets or
systems of interrelated and specialized organizations that are designed
to perform particular disaster-related tasks.

Thus, there are medical systems delivering emergency medical services,
while police and/or military systems provide security. The accomplish-
ment of these and other disaster-relevant tasks involves far more
than one-way communication among participating organizations. Rather,
there are multiple two-way and chain communications between different
kinds of multi-layered groups. In a medical system, there may be
several first aid stations, ambulances or transporting units, primary
and secondary hospitals (both public and private), and segments of
different authorities operating within diverse jurisdictions. Al-
though communication within an organizational system is difficult
during nonstressful periods, it can and often does become quite
problematic during a community disaster, especially since there is
an emergent quality in the behavior of many systems at such times.

Generally, problems in the area of organizational communication are
the most serious ones. If difficulties in this area are not solved,
or at least mitigated, there is no great need to worry about other
kinds of problems. Rapid and accurate communications are essential
core ingredients of any effective and efficient organizational response
to disaster. The absence of these attributes results in inappro-
priate or inefficient responses to other problems.

2. The Exercise of Authority

Disasters require that some agencies and officials assume responsibilities,
make decisions, and be seen as legitimate. Naturally, if the exercise
of authority is weak during nonstressful periods, it will prove even
weaker when disaster strikes. If authority is weak in the first place,
as is true, for example, in many county governments in the United States,
it can completely disappear when disaster strikes. However, even if
we assume that the exercise of authority among agencies and officials
during periods of normalcy are operating properly within a community,
there will be problems during the emergency phases of disasters. The
difficulties which surface, however, are often not those commonly antici-
pated.

Thus, the chain-of-command and lines-of-authority do not break down in
established organizations. If inadequate communication does exist during
a mass emergency, officials usually continue to exercise their formal
authority and fulfill their normal duties and responsibilities. If higher-
echelon officials cannot be reached, personnel at the middle and/or lower
echelons often make decisions they do not normally make. Even rigid
bureaucracies will bend on this matter when faced with clear-cut crises
that require an immediate organizational decision or response.

A common belief is that organizations may be unable to function effectively due to a conflict between the work role and the family role of officials. Occasionally expressed is the fear that important officials or key personnel will either not report to work or will leave their jobs when disaster strikes because of a concern or a need to take care of their victimized families. Research has shown that this so-called role conflict **does not** result in the abandonment of, or failure to carry out occupational responsibilities. (At least it is not a major problem especially in the higher echelons of organizations, e.g., those positions carrying the most authority.) It is clear that officials can be expected to do their jobs, although there is psychological strain for those caught in such a role conflict.

Neither are there many problems arising from questions concerning which organizations have been delegated the authority and responsibility to perform traditional tasks during periods of disaster. Thus, there are seldom disputes or questions concerning who fights fires, repairs telephones, performs major surgical operations, or other specialized tasks. Such matters are the traditional responsibility of certain local groups. A disaster is unlikely to alter the normal pattern.

On the other hand, there are at least four problem areas involving organizational authority in community disasters: (1) loss of higher-echelon personnel because of overwork; (2) conflict over authority regarding new disaster tasks; (3) clashes over organizational domains between established and emergent groups; and, (4) surfacing of organizational jurisdictional differences.

A. Personnel Burnout

This problem stems from the strong tendency on the part of key officials in positions of authority to continue working too long. Such personnel who remain on the job around-the-clock during a disaster will eventually collapse from exhaustion or become inefficient in their decision-making and other areas of responsibility. More importantly, when such officials are eventually succeeded by others, their successors will lack certain information to exercise the necessary authority, because crucial data will not have been formally recorded. Decision-making requires relevant knowledge. Officials with the appropriate information will not always be physically capable of working beyond a certain point. If such officials occupy key positions of authority, the disaster response capability of the organization can be seriously impaired.

B. Organizational Authority Conflicts

Determining who has the organizational authority to perform new disaster-related tasks is another major problem. When there are new disaster-related tasks to be performed, questions almost inevitably arise about which organizations have the authority to assume them. For example, the responsibility or authority for performing large scale search and rescue activities or mass burials of the dead are normally not everyday tasks of established emergency management agencies.

C. Organizational Domain Conflicts

Authority problems surrounding the performance of traditional tasks
sometimes arise between established organizations and outside or
emergent groups. For the most part, "area security" is considered
a traditional local police function. Conflicts can arise if state
police or military personnel move into the disaster area and also
attempt to provide security. Such actions are often viewed by the
local police as an attempt to usurp their authority. This issue
is sometimes manifested in disputes over who has the right to issue
passes allowing entry into a restricted impacted zone.

The situation is even more complex when the competing organization
is an extra-community group or an emergent group, as for example,
when nonlocal relief or welfare agencies provide services during
a community disaster. Though they may be exercising their mandated
or usual function of providing standard services, such agencies are
frequently viewed as intruders into the domain of local agencies
while performing such functions. If the outside or local relief
group is a new organization, established local agencies undertaking
the same disaster task(s) are almost certain to ask questions about
its legitimacy and authority.

D. Organizational Jurisdictional Differences

Community disasters frequently cut across jurisdictional boundaries
of local organizations. This creates a great potential for conflicts.
During non-crisis periods, vague, unclear or overlapping authority
and responsibility can often be ignored. During disasters, this
is frequently not the case. Since disasters sometimes require immediate
actions and decisions, unresolved jurisdictional issues often surface
at the height of an emergency period.

Problems of authority are especially difficult to resolve. In part,
this is because the question of organizational authority involves
the whole fabric of formal and informal power within a community.
This is a subtle and sensitive matter full of pitfalls for anyone
not knowledgeable about the nuances of local history. Therefore,
it is not surprising that such problems are difficult to plan for
and equally hard to handle when they arise.

3. The Development of Coordination

Organizations experience a large number of coordination problems during
a community disaster. Three major problems have been noted in social
science research:

Lack of consensus among organizations concerning the meaning
of coordination;

Strained coordination between organizations working on common
but new disaster related tasks; and,

Difficulties in achieving overall communication in a community disaster of any magnitude.

A. The Lack of Organizational Consensus

It is unusual to find any organization which does not agree, in principle, that coordination is needed during disasters. The problem, however, is that "coordination" is neither self-explanatory nor a matter of much consensus. At one extreme, some organizations view coordination, at best, as informing other groups of what they will be doing in the disaster. At the other extreme, some organizational officials see coordination as the centralization of decision-making in a particular agency or among a few key officials. Given such diverse views surrounding the meaning of coordination, it is not surprising that even when a formal predisaster agreement to coordinate the disaster response exists, there can occur mutual accusations that one or both parties have failed to honor the agreement. But prior agreement or not, in the absence of an explicit understanding of what coordination means in operational terms, there will be organizational coordination problems. It is rare to find such an explicit understanding in community disaster planning.

B. Strained Organizational Relationships Created by New Disaster Tasks

Coordination (i.e., mutually agreed linking of activities of two or more groups) between organizations working on common but new tasks is also difficult. Even local agencies that are accustomed to working together, such as police and fire departments, may encounter difficulties when they suddenly try to integrate their activities to accomplish a novel disaster task, such as the handling of mass casualties. While police and fire departments may be accustomed to recovering a few bodies resulting from traffic accidents or fires, the large number of deaths resulting from a major disaster will pose a coordination problem. It is partly the newness of many disaster tasks which create strained relationships among organizations which had previously worked together in harmony. Also, in daily operations there can be a gradual development, frequently on a trial and error basis, of a working relationship between two groups concerned with the accomplishment of a common goal. Such leisurely developments of cooperative relationships are generally an impossibility given the immediate demands during the emergency phase of a community disaster.

C. Impact of Disaster Magnitude

The larger the scope of disaster and the greater the number of responders, the less is the likelihood of success of any overall organizational coordination. In fact, efforts to attain such coordination underlie the imposition of martial law or the designation of national military forces as the decision-makers during the disaster. Historically, neither event has ever occurred in the United States, although both are relatively common response measures undertaken during catastrophes in both developed and developing countries. These steps do not always produce overall coordination. This is understandable.

In almost any society, a major community disaster will precipitate a mass convergence of nonlocal organizations upon the disaster site. The numbers involved, the different levels of the social structure which they represent, the heterogeneous mix of public and private organizations involved, and so forth, virtually assure the impossibility of achieving any overall coordination during the emergency period. As shall be noted later, good disaster planning may effectively reduce the convergence of such organizations and thus allow a relative degree of overall coordination. But such coordination remains relative at best and is frequently never achieved--either by prior planning or by the use of ad hoc efforts--during the emergency period.

The magnitude and increased frequency of new tasks to be performed coupled with the need to integrate too many established, emergent groups and organizations minimizes the effectiveness of organizational coordination during disaster situations. Some former military personnel involved in natural or technological disaster planning suffer from the illusion that the command and control system that exists for limited wartime military emergencies--at least in the abstract--can be imposed upon a major civilian disaster situation.

It is to be noted that the evaluation criteria used to judge the consequences of not achieving total organizational coordination determine to a large extent the significance of coordination in promulgating an effective community response to disaster.

If efficiency of response is rated highly, lack of coordination can be deemed a serious problem. If, instead, effectiveness of response is judged more important, it is possible to tolerate a much lower degree of overall coordination. Coordination is sometimes discussed as if it were an absolute good. This is not true. There can be relatively effective organizational responses in disasters without a high degree of coordination.

We have stressed the basic, and often inherent, nature of the problems which emergency management and human services organizations typically encounter. In a community disaster, there will be unavoidable organizational communication, authority, and coordination problems. Emergency organizations will be both the source and the focus of these difficulties. Thus, the collective efforts of community based organizations generate many problems that usually exceed those occasioned by the disaster victims themselves.

Prior planning can reduce the management difficulties that will surface at times of disasters. But even the very best of planning cannot eliminate a great number of management problems. The problems will occur in the response.

Conclusion

We have tried in our remarks to indicate what the more likely difficulties will be and their general nature. To be forewarned is to an extent to create a degree of preparedness.

Because disaster planning cannot achieve everything, does not mean that it is not beneficial. As much planning as possible should be undertaken. In addition, it should be kept in mind that in the response there will be disaster management problems.

We hope we have conveyed, in what we have said, some of the more important things which should be kept in mind.