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SOCIAL ASPECTS OF DISASTERS AND THEIR
RELEVANCE TO PRE-DISASTER PLANNING*

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The previous speakers have done a fine job in presenting you with a case study of a particular disaster--the Guatemalan earthquake of 1976. They have given a good account of a real situation faced by real people with real problems. Particularly for anyone with little or limited experiences in massive catastrophes, what has been conveyed has given a very good sense of what was involved in that particular event.

However, I want to range out from this specific case in two ways.

1. Instead of talking about a particular disaster I want to discuss, in a more general way, behavior and problems in disasters or catastrophes. It is very difficult to separate the distinctive or the unique from the typical and the usual by looking at only one case.

For example, was the absence of short-run food shortages peculiar to the Guatemalan situation or is it typical of any society that normally has no short-run food shortage? Were the absences of certain public health problems related to the specific situation, seasonal time or otherwise in Guatemala, or are most assumed public health problems typically absent in the aftermaths of disasters in societies or countries that have few pre-disaster public health problems? Perhaps what is operative here is what I will be talking about later as the carry-over principle, the idea that post-disaster problems or their absence is closely related to pre-disaster problems or their absence.

Looking beyond the single case study allows us to separate the general from the particular, the typical from the unique. This separation is important because planning, in the main, has to be for the typical. This usually means the statistically most frequent, not the unusual, the atypical, the very rare peculiar set of combinations or circumstances that might be involved in a given disaster. Thus, the scheduled anti-British demonstrations in Guatemala a day before the earthquake, which affected post-disaster offers of aid from Great Britain, could hardly have been anticipated in planning. But then, planning cannot be for the idiosyncratic. It must be for the general.

2. The second reason I want to broaden out from the Guatemalan earthquake is because of the prevalence of a tendency frequently observed among American disaster planners and victim populations. This is the tendency to think of the last major particular disaster as the case to use to plan and think about disasters in general.

There is considerable danger in trying to learn only from the last experience, or the last similar sets of experiences. Let me illustrate this from the experience of the city of New Orleans in the United States. Over the years, the city has learned to prepare for and to respond to hurricanes or the threat of hurricanes. Thus, several years ago when Hurricane Betsy moved upon the city, officials and residents set about, as they had done numerous times in the past, to prepare for a hurricane. Among other precautionary steps usually taken is the movement of equipment to low ground to avoid the flying debris typically associated with

the winds of a hurricane. Also, shelters for people have to be kept open only for a relatively few hours while the hurricane winds buffet the area. The persons in shelters normally have to be provided only one or two meals. However, something different happened in Hurricane Betsy. The hurricane came directly over the city, and because of unusual weather conditions, water untypically piled up inside the levees that normally protect the city of New Orleans against flood waters. A consequence was that trucks and other equipment that had been moved to low lying areas so as to obtain protection from flying debris, got caught in flood waters. Also shelters that were intended to stay open for perhaps 12 hours found themselves having to house people for days, and meals had to be provided for extensive periods of time. In short, the city of New Orleans was well prepared for hurricanes and had tended to think in terms of problems associated with that kind of disaster agent; the area was not prepared for floods, and little thought had been given to flood-associated problems. While this is a particular example, it does illustrate the tendency to generalize only from the last experience or similar set of experiences. Looking at disasters generally rather than at just a single case will help us avoid the unfortunate tendency just discussed and illustrated.

Sometimes, disasters are approached, especially by inexperienced persons, as if no one had ever thought about them before. It has been said that there is little new under the sun, that everything has been said or done before in some way. While this is probably an overstatement, there is a grain of truth in this idea and it is true for the disaster area also.

In this connection, let me recall to you one of the better known stories in the Bible--the story of the Great Flood, and Noah and his Ark as set forth in Genesis 6-9. Someone has observed that Noah with his Ark was the first disaster planner. It is, in fact, worthwhile to look at what happened according to the account we have. Noah had a somewhat unusual and personalized warning system, so he anticipated a threat. Certainly 40 days and 40 nights of rain would be a threat in any locality! Clearly specific consequences were probable with such a likely impact. Thus, Noah developed his response to the potential danger and implemented it by building and equipping his shelter. He also projected personnel needs and had the capability to mobilize the necessary creatures--two of each, as you might recall. When the threat was realized, Noah rode out the flood in relative safety and adjusted to the situation. You will recall, after waiting 150 days, he sent out a dove, but the dove returned after not being able to find dry land. Seven days later, the dove was sent out again, and this time did not return. Noah was then ready to start the recovery stage--to pick up the pieces, to start a new world.

In many ways, this story illustrates very good planning and a very good response. For example, there was a good warning system, it came from a highly legitimate source. There was adequate hazard assessment; that is the threat and its consequences was well projected. There were good preparatory and protective actions taken, especially in the mobilization of resources and personnel. The planning was well implemented. It was

probably the best evacuation ever reported. There was a good post-disaster attempt to assess the situation. The use of doves for damage assessment may be a little unusual, but the function they carried out is an absolute necessity in the wake of a disaster. And the long run objective, to start a new world, was clear.

On the other hand, this story, while being a good example, is also a bad example in the sense that many of the things which were taken as given in this situation are actually problematical in real and actual disasters. The Noah story, in other words, presents an ideal rather than a real disaster situation. This can be seen if the ideal and the real are contrasted.

Take the first and the last points noted above. In the Noah story, there was a legitimate source of warning, and the warning was unchallenged. But in many actual potential disaster situations, there is a tendency to assume all danger cues to the normal and the routine, particularly since warning sources are often not seen as totally legitimate, or at least they are seen as being challengeable. Furthermore, in the Genesis story there was the proper kind of warning, that is there was not only an indication of the threat that had to be faced, but it was clearly indicated what had to be done. This contrasts with the real world where most warnings alert potential victims that something is amiss, but they frequently fail to indicate relevant courses of action that might be followed.

Also in the Noah story there seemed to be consensus about a fairly clear cut objective--the start of a new world. Again, this is a contrast with real situations. While there is generally consensus in the immediate emergency period of a disaster, this phase is usually followed by one of considerable conflict. Not only do old conflicts reemerge, but new ones associated with the disaster develop. Furthermore, the long run recovery objectives are often vague and frequently contradictory as they reflect various interests involved in the recovery effort. Thus, in the post-disaster period, there are those who **push** for a restoration of the pre-disaster status quo, and there are those who see the disaster as an opportunity to bring about change.

Ideal situations, therefore, differ considerably from real situations. Much of what can be taken as given in the former instance are what are likely to be problematical in actual real disasters.

Looking at the Noah case can also be misleading in another general sense. It has been said that the military and generals are always planning to fight the last war. I am not certain that this is actually the case, although I understand the U. S. Army had perfected the cavalry charge just before World War II. At any rate, there is a similar tendency in disaster planning to look backward rather than forward.

This is particularly unfortunate since there are a number of long run trends around the world which require thinking of different kinds of disasters in the future. For example, we are all faced with the certain increased probability of technologically caused disasters in the future.

These may range from radioactive spill outs in nuclear plant accidents, which might affect countries quite distant from an explosion area, to electric system grid failures, which can darken vast regions as did the blackout which hit the northeastern United States and Canada in 1965. Some of these new kinds of disasters were almost inconceivable 50 years ago and in their ways have a potential equivalent to Noah's flood.

I have suggested three background points so far. We should think of disasters and not of a disaster. We need to think of real and not of ideal situations when planning for disasters. We must think of the future and not of just the past when considering disaster possibilities.

I want to go on now to develop three general themes and to make some suggestions with respect to the following questions:

1. In real disaster situations, what are the real demands or problems?

I will suggest three related answers.

- (a) The demands imposed by the response to a disaster are as important, if not more so, than agent generated demands. A distinction will be made between response demands and disaster agent demands, and it will be noted that the former kinds of demands or problems are more important than the latter in disaster situations.
- (b) Demands or problems change through time. We should not think of disasters as creating a fixed set of problems; rather disasters should be seen as activating a series of changing demands. Thus, our perception should not be that a disaster occurs and creates X set of problems, but instead that the appearance of a disaster triggers different problems for different groups at different points in time. In the mathematical sense, disasters create stochastic processes insofar as problems and demands are concerned.
- (c) Demands of disasters differ along certain important lines. But it is not that disasters differ individually from one another as much as that different classes of disasters have different consequences. For example, there are those disasters that give considerable warning and those that give little. In this respect, earthquakes and explosions are similar in the same sense as are floods and typhoons.

2. Given the demands or problems, what are the contexts in which they occur?

- (a) Planning has to make realistic assumptions about victim populations, how their behavior might or might not change in a disaster. Most disaster planning does not make valid

assumptions. In fact planning is frequently based on pure mythology about the behavior of individuals and groups under the extreme stress of a catastrophe.

- (b) Planning has to make some presuppositions about the local response (local in this context may range from community to nation). However, outside groups and agencies generally tend to badly underestimate the capability of any impacted area to respond to and to handle immediate emergency time period problems. While local individuals and groups cannot adequately cope with massive disasters, they frequently do better than they are usually credited.
- (c) Except for a few countries in Western Europe, the North American continent, Japan and some Communist countries, outside groups will come in after a massive disaster. There is the well known convergence phenomena. However, while political differences are recognized as affecting this response, more subtle differences are often ignored. For example, housing relief frequently disregards the indigenous family structure and house use patterns and overlooks the fact that a shelter is not necessarily a home.

3. What general principles of planning are applicable given the disaster demands and the settings in which they occur?

I will suggest that there are certain principles of disaster planning. These may appear simple on the surface, but which, if ignored, make for poor response by operational personnel in a disaster situation. What is clear is that there is no need for an ad hoc response or a hope that things can be "muddled through"; much can be intelligently planned ahead of time.

Real demands or problems

A useful distinction to make is between those specific demands or problems generated by the disaster agent and those more general demands or problems created by the very act of responding to the disaster. Specific disaster agent generated demands are such matters as: warning; pre-impact preparations; search and rescue; care of the injured and dead; temporary welfare involving food, clothing and shelter; restoration of essential services such as gas, phone, electricity and water; protection against continuing or secondary threats; and community order. These are all problems or demands directly created by a disaster agent, be it a hurricane, earthquake, flood or whatever the physical event in a particular case. These are also the kinds of problems and demands easily recognized by almost anyone with any familiarity with disasters.

On the other hand, there are the more general demands or problems created by the very actions involved in responding to the specific demands

or problems generated by the disaster agent, as just discussed. These more general demands or problems are such matters as: communication; continuing assessment of the emergency situation; mobilization and utilization of human and material resources; coordination and control and authority. Thus, to warn people, for example, requires communication and coordination. To restore essential services requires the mobilization and utilization of human and material resources, and so on. These sets of general demands or problems are less often explicitly recognized as involved in disasters and often do not appear in disaster plans, in contrast to the almost certain listing of disaster agent generated problems and demands.

Now there are some important differences in these two kinds of demands that have to be taken into account in disaster planning.

The specific, in contrast to the more general demands, often reflect a difference between the concrete and the abstract. The latter is less easy to see as a problem. Everyone can understand, for example, that 400 bodies may have to be buried; what constitutes the setting of priorities so resources can be mobilized, on the other hand, is not as easily perceived, and this is reflected in disaster plans and the very actions of operational personnel.

There is also less likely to be agreement or consensus on response demands. There probably would be very little disagreement that the water supply to an impacted area should be restored. But what does it mean that there should be coordination? Our own studies suggest that coordination is often understood in rather different ways, ranging from the views of some that it involves centralized decision making, to a contrasting view that it means keeping others informed, at one's own convenience, about what one's own group or organization is undertaking independently. Planning and operations are easier with respect to agent generated demands than they are to response created problems.

Unfortunately, it has to be noted, there are times when response demands can create more of a disastrous response than the agent demands in the same situation. I suspect most of you might disbelieve this. However, let me illustrate. In Wilkes-Barre, Pennsylvania, about 20,000 people had to leave their homes for a long period of time because of a massive flood. This was bad for the evacuees in that they were forced out of their homes and their lives were disrupted in many major ways. But what was the worst for many of them, was that as a result of an incredible amount of bureaucratic inefficiency, they were forced to break neighborhood ties and to live in trailers which were very poorly suited to the area. There is little question that for many households and individuals, there was greater social and psychological damage inflicted by the "helpful" response of putting evacuees in trailers than was done by the disaster agent of the flood waters.

In another situation a social scientist looking at another massive relief effort after a disaster said: "The end result insofar as rehousing was concerned was what might be expected if a brilliant madman set about

in the most ingenious ways to maximize personal and social pathologies." This was said of an effort where millions of dollars were spent over several years by dozens of well intentioned officials who did not know what they were doing, or perhaps worse, who thought they knew what they were doing.

Without detailing further these two particular cases just used as examples, it can be said that what is often involved in instances of this kind is that many disaster organizations plan for their own convenience, not for those they serve. They typically set up procedures that make life simpler for themselves, avoid difficulties with other agencies, and otherwise make things smooth, even though this may not be best for those supposedly being served. In short, narrow organizational survival criteria rather than general people service criteria are applied.

This kind of reaction is not peculiar to disaster situations. Recently a book on the welfare system appeared in America, entitled, Clients Come Last. The book basically documented how, in ordinary times, even people serving agencies and organizations tend to put their own interests first. This does not involve any conscious malintention or evil motives. We all tend to operate somewhat at the personal level in the same way that organizations do at their own level. Thus, it was very convenient for me to advance the examination dates for my students back at Ohio State University so that I could come to England for this conference; for the students however it was somewhat of an inconvenience, in that some of them had multiple examinations on the same day rather than having their examinations spread out over a number of days, as is normally the case.

We have a slogan around the Disaster Research Center which illustrates this same point from a somewhat different angle. It is that plans should be adjusted to people rather than forcing people to adjust to plans. This is more than a play on words, or even an ethical or moral matter. Purely at the pragmatic level it is much easier to get things done if one figures out what people are going to do and plans around that, rather than developing some plans and then attempting to institute measures which will get disaster victims to conform to or go along with the established plans. Without any studies, it should be obvious that it is much easier to go with the tide than to attempt to swim across or against it. Yet we continually find in our studies at the Disaster Research Center that organizations often develop plans that assume the latter rather than the former.

Another useful idea to keep in mind is that disaster demands change through time. There is a necessity to take a dynamic rather than static view of disaster consequences.

There is a far more than academic exercises involved when some students of disasters attempt to distinguish different time phases of disasters. A typical temporal breakdown is to distinguish between the pre-disaster, the pre-impact, the impact, the emergency, the relief and the recovery phases of a disaster. However, I am less concerned with

any particular time phase scheme than I am with a very important implication which can be noted if time distinctions are made.

My concern is with the simple point that a disaster is not a unitary whole. For different areas or communities, for different organizations and families, the "same" disaster may start and may stop at different chronological points. For example, a weather service may start getting involved in a disaster with the first sighting of danger cues picked up by its monitoring system, and its involvement may end after a warning message has been issued. In the "same" situation, the disaster for some governmental agricultural agency may start six months after actual impact because certain crops might not be planted until that time due to salt water contamination, and the organizational involvement may end only two years after that.

The importance of noting this is that what is considered a disaster and its duration can vary, and usually does, even for emergency organizations which may become involved. Thus, what may appear to be an urgent matter to one group requiring immediate action, is not seen in that light at all by another organization. There are differential time involvements and differential time withdrawals from a disaster. A disaster is not a fixed entity out there with a fixed time duration. A disaster, insofar as its existence is concerned, is always a relative matter, varying according to whose perspective is being applied. Yet too often disasters are seen as things that happen and which create problems, leading to an ignoring in planning and operations of the simple fact that demands or problems change through time in the sense just indicated.

Disaster demands also differ along important dimensions, because disaster agents differ along important lines. As I said earlier, these dimensions cut across different agents. It is, thus, not the difference between a typhoon and an earthquake that is important. Rather, it is that different classes of disaster agents vary along such dimensions as: predictability; frequency; controllability; speed of onset; length of forewarning; duration of impact; scope of impact and intensity of impact, among others.

There are numerous obvious implications for disaster planning and operations in all of these differences. I will not try to spell them out. Instead by citing them, I wish to emphasize the basic point that the phenomena of a "disaster" is not a simple matter. Simple things might create simple problems handled by simple solutions. But complex phenomena create complex problems necessitating complex solutions. It is this latter that we have in the case of disasters.

This is not a call to despair but an appeal for realism in thinking about disasters. Too often a simple minded approach is taken which consists almost only of saying: here is a disaster; here are the problems; and here is the way of handling them; as if all these things were the same in all classes of disasters. I have tried to indicate the non-unitary nature of disasters and the range of problems, and have clearly implied the complexity of solutions or planning which is necessary.

Contexts of disasters

There is a fundamental question which can be asked about the victim population in any disaster. How one answers it makes considerable difference in how one might plan for and respond to a disaster. The question is: do people act different in disasters than they act in "normal" times?

The popular view, often graphically set forth in disaster films or journalistic accounts, is to stress differences, usually in the direction of disaster behavior supposedly manifesting the irrational, the emotional, if the not the downright deviant or pathological. The imagery is one of wild flight, hysterical breakdowns, traumatic shock, and anti-social reactions. Somewhere I have noted that this imagery is essentially one derived from a Dr. Jekyll-Mr. Hyde conception of human behavior. Disasters, it is supposed, lead to the submergence of the good Dr. Jekyll and to the surfacing of the evil Mr. Hyde. If this imagery is true, it is a grim picture indeed, because it implies victim populations will manifest considerable personal and social chaos.

For purposes of discussion, let me pull out just two of the themes that abound in this imagery and which many disaster planners and emergency operational personnel take seriously.

One, there is the idea that, especially in massive catastrophes, victims are in a state of shock, are stunned, and are unlikely or unable to do much for themselves. Essentially victims are seen as being overwhelmed by the trauma of the disaster. There are often numerous anecdotal accounts about such behavior circulating in the disaster area.

There are some important planning implications if this idea of personal chaos is accepted. Among other things, it implies the need for outside assistance, that this assistance must be very rapidly provided, and that the best judges of the necessity of such assistance are outsiders.

Two, it is also widely believed that existing local groups and organizations in an impacted area are not going to be very effective and efficient in their responses. Thus, it is said, for example, that organization communications almost always break down under stress. Again there are fairly evident planning and operational implications if this is a true picture of organizational functioning in disasters, if social chaos really prevails.

What is the evidence on all of this? What do studies show? I mean research studies and not just examples. You can find illustrations of almost anything you want in a major disaster. I think I could match true horror stories with almost anyone in the world about unusual, dysfunctional and odd behavior which was observed in connection with a disaster. But such isolated observations are not the issue. Such observations are relevant only if they are disaster-related and are frequent enough to make a difference.

I think that from the different research which has been undertaken the following can be said. One, what is frequently viewed as disaster caused behavior is simply a continuation of pre-disaster patterns. In certain sections of the world it does appear that looting may occur after a disaster. Behavior of this kind, for example, appeared in the Managua, Nicaragua earthquake. However, it also does appear that such looting is a continuation of pre-disaster patterns. The disaster might provide greater opportunities for the looting, it does not create this as a new behavior. In short, we have here again an instance of the carry-over principle, that which prevailed prior to a disaster is likely to prevail after a disaster. (I might inject that within Western societies looting is an extremely rare phenomena in disasters. However, in the Western world, including the United States, there are localities where anything that is not nailed down is likely to disappear in normal times; in those areas looting also might be expected after a disaster.)

Two, there is a tendency to generalize from statistically infrequent cases. In fact, in some instances there may be no cases at all. Let me give an example, from a non-disaster, although crisis, situation. Undoubtedly all of you know about the famous Invasion From Mars broadcast in the United States before World War II, when supposedly millions of Americans fled their homes as a result of what they heard over the radio. Quite recently there was a parallel incident in Sweden. There was a radio drama broadcast about a nuclear power plant disaster in southern Sweden. The audience of this broadcast supposedly accepted the fiction story as a true news broadcast, and it was asserted that thousands of Swedes fled from their homes in panic. The panic flight thought to have occurred was not only widely recounted as a fact by all of the mass media in the country but was also the subject of a Parliamentary debate the next day. Few seem to have doubted that a panic flight had taken place. However, a number of Swedish sociologists undertook a very intensive study of what really happened in the situation. One of the most surprising findings was the complete, and I mean complete, absence of panic flight. Whereas thousands were supposed to have run in panic, the Swedish researchers were not able to find a single, authenticated case. It is not that they found a few cases, they found none at all. The story of panic was pure journalistic fiction, honestly reported to be sure, but nonetheless having absolutely no basis in fact.

This is an extreme instance, but there is reason to believe that many widely accepted beliefs about disaster behavior have as little basis in reality as the incident just detailed. Our own studies of looting behavior in disasters in the United States bear this out. For example, in two major studies we undertook, we found that more than 80 percent of a sample of the population in two separate disaster stricken communities reported that they had heard stories or accounts about looting. However, when asked whether they themselves might have been sufferers from looting, less than five percent in each area indicated that such could have been a possibility--and I have reason to believe that for reasons too complicated to examine here, even this small figure was probably rather high in terms of any actual looting that may have occurred.

In general, the research evidence is contrary to the earlier stated image of disaster behavior as involving wild flight, hysterical breakdowns and the like. In fact it is actually rather noticeable in most disasters that immediate emergency needs get handled--search and rescue is undertaken, bodies are found, the injured are given treatment, most people get some sort of temporary shelter, few people run around naked unless that is already the standard fashion, etc. There is no passive standing around waiting for help from outsiders.

Some reports of disasters in Third World countries would appear to be inconsistent with what I have just said. I would suggest that the view of Third World country disasters are filtered through Western, middle class values and beliefs of a highly ethnocentric nature. In short, the reports often reflect class, ethnic and cultural differences that are more projections of the Western reporter than they are of anything in the disaster situation. Western observers occasionally say that disaster victims of earthquakes are passive and await things to be done for them. Perhaps, but I am not sure that such a view is not the typical Western view of "natives." It also cannot be ignored that actions get mobilized in different ways in some societies; even in Western societies, much scurrying around is not necessarily an indication of efficient and effective actions.

Overall, the most conservative statement which can be made is that all evidence suggest trans and post-disaster behavior is unlikely to be statistically much different from pre-disaster behavior.

I am not saying that there are no problems in disasters. There are many. But they are mostly of an organizational rather than of a human kind, if we can make that distinction. Neither do I deny that people are frightened, disturbed, and both psychologically and physically shook by disasters. They are, but it does not follow that they collapse as a result. In general, people more than rise to the challenge of collective stress situations.

When we turn to looking at organizations, the research which has been undertaken fairly well indicates the same general picture. By that I mean that the evidence clearly shows that organizations almost never collapse in the face of disasters. They, in the main perform, more or less, the way they normally do.

That the carry over principle also applies to organizations is frequently obscured by the following. It often happens that in disaster situations groups and agencies are measured against an ideal basis--how they presumably operate during normal times. This is a false measurement. Very few organizations are models of efficiency and effectiveness during routine activities, but this is not always noted. For example, we at the Disaster Research Center have recently been undertaking some research on the delivery of emergency medical services in mass casualties situations. We have generally found that there are delays in getting victims to hospitals, that ambulances misdistribute patient loads, that emergency medical treatment is often poor, etc. If these things do not

occur everyday in the delivery of emergency medical services, then, of course, what we are finding is not too positive a view of hospitals and ambulance services in disasters. However, studies of everyday operations indicates that there are delays in getting patients to hospitals, ambulances do not always distribute their passengers appropriately, emergency medical treatment is not always the best, etc. In short, there is not that much difference between the mass casualties or disaster situations and the ordinary everyday situations. The mass casualty situations only look very inefficient and ineffective if measured against an ideal rather than real everyday situations.

Sometimes it is noted that communications do not proceed too well in disaster involved agencies and organizations. I do not doubt the validity of many such observations, but I would suggest organizational communication in most organizations leaves much to be desired in normal times. Frequently there is not that much of a difference between routine and emergency situations except in the latter case, the behavior stands out more because of the presumed urgency to act.

Again, I am not saying there are no organizational problems at times of disasters. There are such problems, but they should be understood and evaluated against the real world, and not against some ideal and non-existent world.

Concern is sometimes expressed about officials abandoning their work roles at times of disasters. This is sometimes attributed to a conflict between the work and the family roles that the individual might have. In the main this does not happen, unless that is a normal pattern in everyday life. If the latter is true, it can be anticipated that there will be a carryover in a disaster situation.

Outside organizations in disasters

Now there are some kinds of problems that local organizations may not handle particularly well. Especially in massive disaster, in most societies, local groups typically have difficulty in dealing with (a) specialized needs, whether of personnel or resources, and (b) longer run recovery efforts. This is where outside groups can play an important role.

Much could be said about the role of outside groups and their relationship to local groups in disasters. However, I will confine myself to only a few major points.

A convergence of personnel, food, medical supplies, etc. on the impacted locality is a universal characteristic of disasters, whether domestic or international. In the modern world there is no way, as I see it of stopping convergence, so the question is how to take it into account and prevent unnecessary difficulties.

In general, the notion prevails that convergence can be handled by better coordination. But whether coordination should be so highly valued depends, I would suggest, on the criteria used, whether one applies the criteria of efficiency or effectiveness. Without getting into any technical definition, efficiency has reference to a good ratio of the means used to the ends desired, with efficiency being highest when there is high congruence between means and ends. Effectiveness, on the other hand, emphasizes achieving the end objective, no matter what the cost.

It is not as self evident as might appear to be the case, of which criteria ought to be used in disaster situations. Efficiency clearly requires more coordination than effectiveness. But is efficiency always more desirable than effectiveness? For example, in most disasters, search and rescue efforts are generally not very efficient but they are usually rather effective. My general feeling is that we might want effectiveness on most short run disaster problems but perhaps efficiency on longer run ones.

Apart from the coordination problem, which may be partly solved, there are other problems for outside organizations operating in a disaster which perhaps have no solutions. For instance, outsiders coming in should recognize the phenomena of the possession of disasters by the locals. It is their disaster, and there is resentment of outsiders even seeming to attempt to claim any sharing of it. This in-out group conflict surfaces in almost all disasters. It partly serves the function of bringing solidarity to the impacted group, but it also means that, at best, there will be an ambivalent attitude towards outsiders, even helping ones. The latter is not surprising. Few people or groups are wildly enthusiastic about being charity cases or having to show gratitude to people who help them.

Sometime outside agencies are rather tactless in that they convey the attitude that "we are here to help you." It might be much better to suggest a question: "in what ways can we help you?" In short, there should be a conveyance by outsiders of a supportive, rather than dominant, role insofar as what they will do in a disaster. (I realize the public relation problems of outside groups having to make certain claims for their own fund providing audiences about what they are doing, but this could be balanced against the resentment they may evoke from locals.)

The local-outsider conflict is sometimes compounded by a parallel professional-amateur overtone to what happens. The outside groups frequently convey the idea that they are the disaster experts. In a strictly objective sense, that often is true, since groups and personnel going to international disasters not infrequently have had experiences in other disasters. But from a more social psychological viewpoint, such a stance is a very poor one to take. Not only do victim populations and organizations see themselves as directly suffering from the disaster impact, but on top of that, they see themselves as being defined as inferior, as amateurs in understanding and in dealing with the problems of the disasters.

Such a perception is unlikely to generate feelings of gratitude and delight with outside groups and officials no matter what their actual professional qualifications may be.

Furthermore, there is a tendency for outsiders to try to use universalistic and impersonal criteria in their rendering of disaster services. Thus, they will often try to operate with the principle of equity in providing aid. Local personnel are much more likely to use traditional and particularistic criteria, that is, some groups are more worthy of aid than others. These particularistic criteria will be carried over from the pre-impact to the post-impact disaster situation. It is very difficult to reconcile a clash between such kinds of universalistic and particularistic criteria, especially if both parties involved--outsiders and locals--tend to see their criteria as the "correct" ones to be applied in the situation.

The difficulty of outside groups is also increased by the fact that they not only have to deal with local groups which are touchy about many matters, but often they are working in situations where there is considerable uncertainty about what the disaster needs really are. There is a reasonable assumption by outsiders that the number of casualties, the amount of property damage, the losses sustained, etc., should be ascertained. Clearly there is a necessity to get some idea of such matters in order to see what resources must be mobilized for the needs in the situation. But it is all but impossible to obtain reliable statistics in any major disaster, even those in Western countries with elaborate record keeping systems. Some research undertaken in the United States about economic losses on disasters, for example, suggest that figures frequently advanced in the field may be two or three times the actual losses, and the misestimations may be in either direction--that is, over and underestimations. Figures are likely to be even less reliable in Third World countries, because many of them have no adequate statistical base for everyday, normal time operations. All statistics therefore are going to be even more suspect at times of disasters in such societies. Given this, it is not surprising that outsiders come to believe that locals sometimes attempt to take advantage of them in seeking disaster aid. I have no doubt that occasional efforts to misrepresent disaster needs occur, as they do also in domestic disasters in the Western World. But frequently the perceived attempt in international disasters is more the result of the absence of any reliable information about the disaster impact than it is the consequence of much conscious effort at manipulation, if not downright fraudulent misrepresentation.

Principles of planning

I have suggested a number of difficulties in preparing for and responding to disasters. There are such difficulties and it would be foolish to pretend that they do not exist. On the other hand, it is

equally as foolish to assume that nothing can be done ahead of time, or that everything has to be tried out in the field on a trial and error basis. On the contrary, considerable planning is possible.

I want to mention some basic principles of planning which seem quite applicable to disasters. I draw these principles from a Disaster Research Center monograph entitled, "A Perspective on Disaster Planning" which I co-authored recently. Some of the principles have already been alluded to in my earlier remarks.

Again let me remind you of the Bible story of the Great Flood and the Ark. While Noah's story is well known, his actions were not too different from the actions of many contemporary persons who, one way or another, are engaged in planning for major emergencies in many different types of societies around the world. They too attempt to recognize threats which are likely. Efforts are made to anticipate probable effects of a range of dangers and what countermeasures can be made to neutralize or soften disaster impact. Consideration is given to the difficulties associated with mobilizing persons and resources to deal with multiple pre-, trans, and post-impact needs and demands. The ultimate goal in such planning is to enable an effective and efficient start towards the restoration of normal routines.

All this suggests that there may be certain general principles in the planning process itself, as well as specific problems that have to be dealt with by emergency plans. It is useful, therefore, to point out a few of the consistent general principles involved in disaster planning. I make no attempt to cover all relevant principles. The effort is simply to highlight a few of the more important ones.

1. Planning is a continuous process.

In most ways, planning, if it is to be real, is not an action with a definite end. It is rather a continuous process whereby the persons involved develop procedures for future situations. As such, the development of a written plan at a specific time is only a small part of the total planning process. Thus, to assume that planning is complete when a written disaster plan is produced is to court trouble. Plans need to be constantly kept up to date and revised as conditions change. In fact, an unrevised or out-of-date emergency plan may create more of a problem than no disaster plan at all. Such a situation can give the illusion of being prepared and ready when this may not be the case at all.

2. Planning involves attempting to reduce the unknowns in a problematical situation.

The process of planning primarily involves attempting to anticipate problems and to project possible solutions. But while some planning can prevent certain events from happening, in the vast majority of cases plans can only alter or modify what will happen. This is particularly true in the case of natural disasters where, generally speaking, the

disaster agent cannot be totally eliminated or neutralized. Thus, disaster plans can help to indicate the range of problems that will occur and possible solutions to them. In this sense, planning reduces the uncertainty of stress situations; it does not prevent the situation from happening. It is, in fact, very unwise to assume that everything can be planned for, that the unknowns of a disaster situation can be totally predicted ahead of time, and that because certain things can be correctly anticipated it will be possible to prevent them.

3. Planning aims at evoking appropriate actions.

At times it appears planning is thought of primarily a mechanism of speeding up response to a crisis situation. It is true good planning may allow a quicker response to certain disaster problems. But that is more a byproduct than what ought to be a major objective in the development of plans. Appropriateness of response rather than speed of response is far more crucial. It is far more important in a disaster to obtain valid information as to what is happening than it is to take immediate actions. Reacting to the immediate situation may seem the most natural and human thing to do, but it is rarely the most efficient and effective response. The immediate situation is seldom that important both as to short run and long run consequences. Planning, in fact, should help to delay impulsive reactions in preference to appropriate actions necessary in the situation.

4. Planning should be based on what is likely to happen.

Some planners at times seem more oriented toward the most ideal situation which could be imagined rather than the possibilities which are realistically possible. This is unfortunate. It is far better to plan on the basis of what people usually do in normal situations and what they will probably do in emergencies, than to expect them to expect them to change their behavior drastically in disasters. In other words, planners have to plan on the basis of the most likely probabilities, not the untypical or unusual case. In this sense, as I said earlier, planners must adjust their disaster plans to people, rather than expecting people to change their behavior in order to conform with emergency plans.

5. Planning must be based on knowledge.

In order to develop plans based on what is likely to happen, there is the need for accurate knowledge. Too often, as I noted earlier, planners operate on the basis of myths or misconceptions about the responses of people and groups under stress. Thus, it is frequently but incorrectly assumed that the immediate problems of disaster involve uncontrolled behavior, panic, and the like. This is not the actual situation facing emergency planners. Planners need to know not only for themselves but also for others, what does really happen in a disaster. Plans can only be designed and implemented if they are based on knowledge of actual problems and realistic solutions.

6. Planning should focus on principles.

There is a tendency, in developing plans, to elaborate them considerably. In fact, there is a strong temptation to go into very specific details. However, disaster plans in the main should focus on principles rather than concrete details. There are several reasons for this. It is really impossible to plan everything. Situations are constantly changing and specifics quickly get out of date. Too many details leave the impression that everything is of equal importance when clearly this is not the case. A complex and detailed plan is generally forbidding to most potential users and tends to be ignored. Thus, disaster planning, while it can not totally ignore details especially at the organizational level, should focus on general principles, and in that sense ought to produce simple rather than complex plans.

7. Planning is partly an educational activity.

Involved persons and groups must know the disaster plans if they are to work. This requires a considerable amount of what might be called educational activity. The planner must learn about actual problems and possible solutions. This information must be meaningfully communicated, not only to those directly implementing the plan, but to some degree also to those officials who might be the recipients of the services or aid provided by the plan. The planner must convey to anyone likely to become involved in a disaster response what can be generally expected. Too often planning is conceived of in the narrow sense of drawing up written plans. It is more useful and valid to think of disaster planning in the broader sense of educating oneself and others about what can be anticipated to happen, what the problems will be, and what are the most efficient and effective responses possible in a community emergency.

8. Planning always has to overcome resistances.

The advantages of planning for disasters are not always self evident to everyone, thus leading to automatic acceptance. There are many reasons for this. Some people believe they already know what to do and what to expect in emergencies. Some groups think they are not subject to disasters. In some instances, experiences in certain situations are believed to be almost totally transferable to other contexts (e.g., much of the theory of emergency planning has been developed by military personnel in military situations for military purposes, and there is sometimes a mistaken belief that such planning can be easily applied to a civilian context--thus, for instance, the great emphasis on obtaining "control" of the situation in the mind of some former military personnel involved in civilian disaster planning). At a more general level, planning requires changes in thinking and ways of doing things, not to mention some expenditures of resources and effort. All these and other aspects that could be mentioned create resistances to disaster planning. It is, consequently, safe to assume that disaster planning will have to be "sold" than to suppose it will be enthusiastically embraced when proposed.

If all of the above principles are kept in mind, it will be easier to organize a response to a disaster. That is, it will be possible to mount a planning effort to meet an emergency. If disaster plans already exist, the principles ought to suggest how the planning can be kept viable and valid.

The specific applicability of these principles of planning will, of course, be partly dependent on the particular circumstances of the organizations or agencies involved. But in varying degree, all the stated principles should be applicable.

My earlier remarks stressed problems and difficulties and the complexities involved in disasters. My later comments have emphasized that such problems and difficulties can be addressed in a meaningful way by planning. And it is these two themes I want to leave you with in closing. Disasters are very complicated phenomena. However, as a result of the studies and research which have been undertaken, we now have the start of good understanding of individual and group behavior in disasters and of the real and actual problems that disasters generate. There is no longer any need to operate with mythological conceptions either about behavior or problems. Furthermore, we can plan ahead of time for disasters. I have tried to suggest some of the principles of planning which might be applied.

This knowledge and this planning will not eliminate disasters. However, it should soften the impact of disasters and permit greater efficiency and effectiveness in responding to the needs and demands which disasters generate. I hope that I have been able to convey this belief to you, particularly those of you who have the more difficult task than I, of doing something rather than just talking about mass catastrophes.