CHAPTER III

PRINCIPLES OF COMMUNITY DISASTER PREPAREDNESS

If the preceding chapter seemed to paint a bleak picture of the feasibility of launching a comprehensive co-operative local preparedness effort in the chemical hazards area, this is, in part, a reflection of the statements of many local officials and members of disaster planning and response organizations who were contacted in the course of DRC research. Many of the concerns expressed by local emergency personnel regarding planning for and response to chemical incidents relate to special characteristics of chemical agents themselves--for example, the difficulty of identifying the exact nature of a particular hazard because the containers may have ruptured in transport. However, other reservations expressed about organizing locally to plan for hazardous materials incidents reveal the same kinds of problems that need to be addressed in planning for any type of community emergency. For this reason, before discussing specific steps to follow when planning for chemical threats, it is useful to first outline some principles of community disaster preparedness which would facilitate planning for any type of agent--natural or technological. The point of this chapter is to show that, while establishing and upgrading community preparedness is never an easy task, attention to a few major principles or considerations may make the job easier and the end product more satisfactory.

Misconceptions about Community Disaster Preparedness

Earlier, a definition of community preparedness was set forth. However, in addition to stating what local preparedness is, it might

also be worthwhile to state what it is not. Discussed below are some of the more widely held misconceptions about disaster planning.

Planning as Formal Disaster Plans

Preparedness is often equated with written disaster plans. People tend to believe that, once a written document is produced outlining resources, lines of responsibility, and disaster-related tasks for an organization or community, the planning task has been accomplished. This may be one of the reasons behind the tendency for local community officials to seek and use "model" plans; it seems quicker, easier, and more economical to devise a local plan by copying or adapting one from another community than to "start from scratch" in the local community. In reality, however, these kinds of short cuts do not produce the desired results. Despite the fact that a formal plan is an essential element in the planning process, community preparedness cannot be achieved merely by drafting plans.

To be useful, a local disaster plan must rest upon a strong foundation, consisting both of accurate facts and the proper social and political supports. Good preparedness begins with the recognition of the need for hazard assessment, resource assessment, the cultivation of a hospitable social climate (e.g., supportive laws and community attitudes) and social networks that are conducive to getting things done. When these elements are present, they enhance the probability that official documents such as disaster plans will be used and used well. Disaster plans are important, but they stand in the same relation to community preparedness as a blueprint does to a building. Much more is actually involved in constructing a building than is shown on a blueprint.

Similarly, plans show the structure and dimensions of a projected response very clearly, but they are a relatively poor representation of all that is entailed in actually organizing an adequate disaster response. No one would equate a blueprint with an actual building; in like manner, no community emergency organization should feel its job is done when it writes a disaster plan. To be useful, plans must actually be used in disaster. The probability that plans will actually be used is higher if they are factually accurate, relevant, widely understood, and perceived as legitimate by emergency organizations in the community. There is no substitute for the experience that is to be gained in going through all the steps involved in disaster planning--the meetings, discussions, debates, rehearsals, training sessions and related preparedness activities.

Preparedness as a Product

In a similar vein, planning is sometimes thought of as something which, once accomplished via the production of a plan, is over once and for all. It would, of course, be very convenient if this were the case, but the nature of community settings, as well as the nature of disaster agents, dictate that preparedness be an ongoing process. This is true in two senses. First, as indicated above, preparedness is achieved, in part, through the experience of working through the planning process itself e.g., assessing risks, creating or enhancing linkages among organizations. Second, preparedness must be thought of as a process because it is affected by community and organizational changes in resources or capability as well as shifts in the number and nature of local threats; for example, budget or equipment cuts or the provision of new hardware or facilities. Moreover, even if material resources remain more or less constant, new people are continually entering

emergency organizations, and they must be brought into the planning process. On the demand side, any number of factors can affect threat: population shifts can alter the number of people at risk from different disaster agents; changes in land use can occur; the addition of new manufacturing concerns into the community can entail new risks to residents. Because the local scene is not static, preparedness can never be accomplished once and for all.

Disaster Response as an Extension of Everyday Operations

Prior to conducting research on chemical hazards, DRC studied the provision of emergency medical services (EMS) in disasters and mass casualty situations. In this study, it was not uncommon to hear local emergency personnel express the idea that special disaster planning is not all that necessary because the provision of EMS in mass emergencies is very similar to the provision of EMS in daily situations, the only difference being one of quantity. In short, the idea was expressed that disaster EMS is like everyday EMS, only more so. In other studies, personnel in different emergency-relevant organizations have expressed similar statements about their own organizations. And in the current study, the notion has been expressed, particularly among chemical industry personnel, that preparedness for serious, acute toxic releases; chemical explosions; and other mishaps is but an extension of everyday corporate health and safety measures.

This type of thinking is far more common among communities and organizations which have never experienced a serious disaster than among those which have. Familiarity with the functioning of communities in actual disasters or mass casualty situations leads to an awareness of crucial

qualitative differences between these situations and the ongoing, everyday activities of community emergency organizations. The three examples below illustrate some of the ways in which disaster and everyday operations differ.

A. Because large-scale emergencies place increased demands on many organizations and because community resources may at the same time be depleted, community organizations must depend upon one another to a greater degree in disaster situations than during normal operations. In this situation of increased interdependence, everyday boundaries (e.g., among political jurisdictions or between organizations) may not be maintained. There may be more sharing of personnel, tasks, and equipment than would be possible during normal times. Community organizations understand one another's functions and capabilities and must be prepared to work together smoothly because this is what will <u>have</u> to happen in disaster.

B. It is not unusual for organizations to lose autonomy (control over their own functioning) in disasters. When a community's ability to function is seriously threatened in our society, responsibility for citizen security and well-being usually reverts to civil authorities. The mayor, the sheriff, or some other official can declare a state of emergency and assume control of emergency activities in a given locality for a set period of time. In chemical incidents, authority

for site control may be vested in some local or outside agency such as a state or regional hazardous materials response team, the Environmental Protection Agency or the fire department. In short, organizations can have their authority pre-empted in disaster, and this represents a decided shift in the basis of their operations when contrasted with everyday operations.

C. Performance standards for some organizations may change drastically in disaster. EMS systems operating by everyday standards under the pressure of increased disaster-related demands have badly botched responses to mass casualty incidents by emphasizing speed of response and using "snatch and run" procedures. EMS services handling large numbers of casualties must shift from their everyday emphasis on quick response time and swift delivery of patients to hospitals (everyday performance criteria) to careful triage of victims and judicious distribution of injured persons to a number of area hospitals (crisis performance criteria) so as to avoid overcrowding at any one emergency room and the risk of long waits and substandard emergency care. In the chemical hazards area, there are also differences in standards of action between everyday and emergency operations. For example, swift response is an absolute necessity for the fire service operating on an everyday basis when responding to structural fires.

> Dealing with unidentified chemical substances or materials whose properties are not thoroughly understood may require a very different response on the part of the firefighter; delaying the response until more information is received is proper in this type of situation. Those who do not recognize that some emergencies call for different types of performance are liable to make poor decisions in crisis situations.

In a disaster situation, organizations may be faced with a whole new set of challenges: taking on new personnel, tasks, and responsibilities; working within a different chain of command; being judged by standards different from those which are normally applied. For these reasons, it seems ill-advised for organizations to think of disaster-related demands as simply "more of the same" in comparison with everyday activities. To function efficiently and effectively, organizations must be in tune with their environment. The environment can change quickly and drastically in a disaster, and organizations must be prepared to change along with it. Good preparedness measures ease these shifts and reduce the uncertainty likely to accompany them.

Disaster Preparedness as Costly

When faced with the challenge of organizing on a community-wide basis a response to disaster, many local and industry officials may ask, "How can we afford to do this?" While a precise dollar figure cannot be given across the board, there is support for the notion that adequate preparedness need not necessarily carry a high price tag. The following

points illustrate reasons why good disaster preparedness may not be as expensive as it may appear.

A. Many local and outside groups are probably already performing activities that could contribute to community preparedness. People in a given local community need to recognize and take advantage of opportunities to upgrade preparedness by working with these groups. Hospitals, for example, must conduct disaster drills twice yearly. It would be very instructive, and not very expensive, for a number of other community organizations--fire departments, chemical companies, the local civil defense, and others--to participate in hospital drills, when they occur, on a community-wide or a regional basis. In a slightly different example, industry or community safety personnel who have received specialized training--in the recognition of hazards associated with particular chemical substances, for example--could, in turn, pass this training on to members of other organizations or to the general public, thus educating more people for the same amount of money. Finally, communities can take advantage of many programs for relatively little money, e.g., government programs and various seminars on hazardous materials such as those sponsored by the National Fire Protection Association. Communities can obtain more for their

preparedness dollars by combining resources; coordinating their drills so as to actually test networks of organizations rather than single organizational units; and diffusing existing knowledge to a wider audience.

B. In any community, some resources exist which are overlooked. People frequently are unaware of expertise, equipment, and facilities which, if known, would upgrade community readiness. When vigorous efforts are made to identify and link local resources which are not salient, it may be discovered that it is not necessary to bring new ones into the community.

C. Before dismissing disaster preparedness as too costly, it might be a good idea for public and industry officials to ponder for a moment the potential costs of not planning. A chemical facility stands to lose a great deal if a fire or a rupture is not contained or is handled badly. A large proportion of those killed and injured in hazardous materials incidents are members of local emergency response organizations. If better disaster planning could help reduce response-related casualties, does this not justify the expenditure of time, money, and effort by local government? When pondering the costs associated with upgrading disaster preparedness, it is a good idea to look at possible short-

and long-term costs of maintaining the status quo. The idea that disaster preparedness almost pays for itself in the long run becomes even more plausible once two points are recognized: "an ounce of prevention" now may possibly avert a catastrophe in the future; and individuals and organizations which are better prepared to deal with major emergencies may also perform better during minor emergencies and everyday operations. Planning today could save life and property tomorrow and could also pay off in subtle ways during times of normal operations.

Characteristics of Good Disaster Preparedness

Having discussed at some length what disaster preparedness is not, it should now be possible to outline in more detail what it is. The points which follow are intended to convey in general terms some of the characteristics of good preparedness. With the help of a few examples, those who are concerned with planning for chemical hazards should see how these key principles are applicable to their own area. (For a more expanded discussion of these same disaster preparedness principles, see "Social Aspects of Disasters and Their Relevance to Pre-Disaster Planning" by Quarantelli, 1977.)

Preparedness as Ongoing Effort

Preparedness is a continuous undertaking. This emphasizes the idea expressed earlier, that preparedness should be seen as a process rather than a product. Threats change, and resource levels also change.

Therefore, an adequate level of preparedness can never be achieved once and for all in any community.

Preparedness as Movement Towards Prevention

Preparedness should work at reducing the unknown in anticipated problem situations. Although preparedness may reduce or eliminate some threats, particularly in the area of chemical hazards, often the best that community preparations can do is reduce the negative effects of a disaster event. Thus total prevention is probably not a reasonable goal. Similarly, it is not possible to totally preplan the response to a given disaster agent. Planners must build in flexibility, that is, anticipate the kinds of problems that are likely to arise--e.g., with evacuation of large numbers of people or of certain special groups such as the elderly--and attempt to reduce the confusion these problems might produce. There are simply too many unknowns in an actual disaster to plan for all contingencies. However, planning can result in a highly satisfactory disaster response if it is geared towards upgrading the capacity of emergency organizations to react flexibly, correctly, and promptly when disaster strikes.

Preparedness as Thoughtful Response

Preparedness seeks to insure appropriate actions by responders. Training people in disaster response should emphasize the importance of acting upon the basis of valid knowledge. In the urgency and confusion of the disaster emergency period, the pressure on responders to engage in action--any action--may be almost overwhelming. However, sometimes, particularly in hazardous materials incidents, the best action

to take may be no immediate action. Any number of cases might be cited in which hasty and incorrect actions on the part of the first responders at the site of a chemical spill did nothing to improve the situation--and may have made it worse. Good planning reduces the understandable tendency to act impulsively in a crisis situation and emphasizes the payoffs which result when measures that are known to be correct and effective are undertaken judiciously.

Preparedness Planning is Realistic

Planning should be based on what is likely to happen. Those responsible for community preparedness should steer away from adopting measures which require people to drastically change their typical ways of doing things in the event of disaster. Rather than expecting people to change their behavior in order to conform to disaster plans, planning measures should be tailored to the behavior of people. Directions to emergency organizations should be expressed simply and in a straightforward manner. Elaborate systems of passwords and authorization should be bypassed in favor of simple badges and color-coded clothing, so as to make mutual identification simpler for responders. The natural tendency for members of the victim population to converge on a disaster site or to inundate the telephone system with requests for information about loved ones should be taken into consideration. An awareness of the fact that, in disaster, people are going to behave in ways that are natural to them, and not according to scripts devised with the ideal response in mind, can help planners avoid costly mistakes.

Preparedness Planning is Based on Knowledge

Two kinds of knowledge are essential for planners. The first includes information about the ways in which people respond to disasters. This is essentially general knowledge in which communities can probably expect to show relatively little variation. (See the Bibliography for readings concerning social aspects of disasters.) The second body of knowledge is more varied and consists of information about the hazards faced by individual communities and the resources that can be brought to bear to combat them. The first kind of knowledge--information about how people and communities respond in disaster--will assist in the formulation of plans which are realistic in terms of their coverage and requirements. The second type of knowledge--information on threats and resources--insures that the community has the quantity and quality of preparedness it requires. These matters are discussed in Chapters IV and V.

Preparedness Planning Focuses on General Principles

As has already been noted, it is impossible to plan in detail for every contingency that may arise in the course of a natural disaster or hazardous materials incident. In many senses, each such event is unique. Thus, there is much to be said for a very general plan, which clearly and explicitly outlines tasks, responsibilities, lines of authority, and places to go for resources, but which does <u>not</u> spell out in exhaustive detail <u>every</u> aspect of an anticipated response. Potential users of disaster plans are generally not willing to plow through a multi-volume document comprised of several hundred pages. To make sure that the plan will be read and used, it should be relatively short and simple, perhaps with

accompanying appendices which describe the disaster responsibilities of specific agencies in more detail and which relate the activities of individual organizations to the overall community response.

Preparedness Planning Involves Education

If a disaster plan is to work when needed, both its content and its intent must be conveyed to those who will be involved in the response and those who are its intended beneficiaries. Planners must communicate to those who are likely to be involved in a disaster response just what they can expect in the event of a community crisis. Members of responding organizations must know not only what to do but also what role their organization is seen as playing in the larger response; local officials must understand their functions and responsibilities; and the general citizenry must, to the greatest extent possible, understand what government, emergency organizations, and even local industry, are prepared to do <u>for</u> them and not <u>to</u> them.

Preparedness Planning Overcomes Resistance

Planning for disasters is not always met with enthusiasm; indeed, it is almost always resisted--if not actively, then passively. Sometimes resistance centers on disputes about the necessity for preparedness or on the degree of preparedness that is desirable. This is probably particularly true in the area of chemical threats, both because they are relatively "new" hazards in terms of public awareness and because even experts disagree on the degree of risk they present. Reluctance to prepare for disasters can also have its source in any of the "social climate"

factors mentioned in Chapter II: legal norms which make preparedness measures risky for some potential participants or attitudes, beliefs and values which discourage planning. Finally, people are often reluctant to participate in community preparedness efforts because it is costly for them--in terms of expending time, relinquishing a degree of autonomy, taking on additional responsibilities, or simply doing things differently. Whatever the reason, attempting to develop a community-based response capability is almost never an easy task. Measures which seem necessary and self-evident to those charged with responding to disasters may seem frivolous to others whose participation is essential. Thus, those who are responsible for community emergency preparedness must also be ready to sell others on the idea that preparedness is necessary.

Summary

This chapter has presented some basic ground rules under which preparedness planning for community crises--be they the result of natural disasters or chemical agents--should be undertaken. In the next chapter, the discussion will turn more specifically to the chemical hazards area. The parties which should be involved in community-based preparedness for chemical emergencies are discussed at length.