

## DISASTER CRISIS MANAGEMENT: A SUMMARY OF RESEARCH FINDINGS

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### ABSTRACT

The crisis management of disasters does not follow automatically from disaster planning. Research has shown that successful disaster management results primarily from the activities of emergency organizations. In particular, there are management problems with respect to the communication process, the exercise of authority, and the development of co-ordination.

There are at least five different areas of difficulties in the communication process, namely, intra- and inter-organizational behaviours between organizations, from organizations to the public, from the public to organizations, and within systems of organizations. Exercise of authority difficulties stem from losses of higher echelon personnel because of over-work, conflict regarding authority over new disaster tasks, and clashes over organizational jurisdictional differences. Co-ordination difficulties come from lack of consensus among organizations, working on common but new disaster-related tasks, and difficulties in achieving overall co-ordination in any community disaster that is of any magnitude. Prior planning can limit these management difficulties but cannot completely eliminate all of them.

### INTRODUCTION

There can be different types of social entities attempting to cope with crises. Out of such spheres as individuals, households, groups and societies (*e.g.* Drabek, 1986) our sole focus will be on formal organizations, both private and public. There can also be different types of collective stress situations (See Barton, 1970), but our discussion will deal exclusively with consensus type community crises generated by natural or technological agents of what most workers in the area have come to conceptualize as 'disasters' (Quarantelli, 1982). As such, we will neither deal with *conflict* type situations such as wars, civil disturbances, riots, terrorist attacks, *etc.* nor with *non-community* kinds of disaster crises, such as most transportation accidents which do not impact the functioning of a community (see, for example, Quarantelli, 1985). These distinctions between the kinds of entities which can be stressed (*i.e.* individuals, organizations, societies, *etc.*), between consensus and conflict types of collective stress situations (*i.e.* disasters

or hostile outbreaks), and between community impacting and non-community impacting kinds of disasters are important distinctions developed in the disaster literature which has accumulated over the last 35 years (see Britton, 1987; Kreps, 1984; Quarantelli and Dynes, 1977).

This article generally summarizes and highlights the major research findings that have been established about organizational behaviour at the emergency stage of community disasters. It does not report the findings of any particular study, but draws mostly, although not exclusively, from the collective work of the Disaster Research Center (DRC). DRC has undertaken nearly 500 different field studies of disasters and mass emergencies since it was founded in 1963 at The Ohio State University and now at the University of Delaware. (For DRC history and activities, see Quarantelli, Dynes and Wenger, 1986.) Drawing from the variety of DRC sociological and social science research on group and organizational preparations for, responses to, and recoveries from community-wide emergencies, particularly natural and technological disasters, this article primarily focuses on aspects of organizational preparedness planning and managing of disasters. (For summaries of DRC studies see Quarantelli, 1980; for others, see Drabek, 1986.)

#### THE FOCUS

It is very easy to assume that if there has been disaster planning there will be successful crisis or emergency time management. After all, that would seem to be the ultimate purpose of planning ahead of time. 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 crisis. There is, in fact, only a partial correlation between the undertaking of preparedness planning and the successful or good management of community disasters.

The reason for this is twofold. One is that the preparedness planning can be poor in the first place. Thus, if disaster planning is agent specific rather than generic, if planning is too segmented or segregated rather than involving all relevant social factors, 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 (Quarantelli, 1985). Poor planning can only encourage poor management activities. This is the more obvious of the two major reasons why successful crisis management does not automatically follow from disaster preparedness planning.

Given that, the other reason will be discussed, namely a failure to recognize that the principles of crisis management are different from the principles of disaster preparedness planning. Studies of disasters have demonstrated that organizational officials do not always distinguish between the two processes or activities, with consequent negative results. Sometimes it seems to be assumed that because preparedness planning is in place, management of the disaster will only require implementation of the prior planning. But preparedness planning and emergency managing are not simply two sides of the same coin.

Perhaps if a parallel is drawn, the last point can be made even more clearly. The military draws a distinction between strategy and tactics. In fact, they teach, and try to implement in practice, 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 preparedness planning involves the general strategies to be followed in readying for sudden community emergencies. In good crisis management, particular tactics are used to handle the specific situational contingencies which are present or which arise during the course of an emergency.

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 crisis management, to a considerable extent, is the application of tactics which are specifically relevant to the situational contingencies of a given community disaster. However, just as the military finds it possible to advance tactical principles in addition to strategical principles, disaster researchers can point to some of the tactical considerations which are involved in effective and efficient crisis management. This will be done by indicating what research has ascertained as the management problems in community disasters.

Before turning to that, it should be indicated that, contrary to most popular images, the major source of problems in disasters are not victims themselves. Apart from the disaster agent itself, in most, but not all cases the major source of problems in disasters is to be found in the organizations responding to the emergency (Dynes, 1974). If there is to be major improvement in disaster planning and disaster crisis management, it will have to come in changing the behaviour of the relevant emergency organizations (Dynes, Quarantelli and Kreps, 1981). Research has shown that successful disaster management results from emergency organizations coping well with certain problematical matters.

In particular there tend to be, in the typical community disaster, management problems with respect to: the communication process and information flow; the exercise of authority and decision-making; and, the development of co-ordination and loosening the command structure.

#### THE COMMUNICATION PROCESS AND INFORMATION FLOW

The term 'communication process' is used deliberately to emphasize that this problem generally involves *what* is communicated rather than *how* communication occurs. In most disasters, there is seldom much destruction or damage communication equipment or facilities, be they radios, phones or computers. To be certain, in some cases, part of the telephone system may become temporarily inoperative (actually in certain instances the phone company itself may take several exchanges out of service to reduce overloading the total system), but ham radio networks or relays of runners are frequently used as substitute means of communication. On occasion there may be some scarcity of equipment for the given emergency demands, but this usually reflects the pre-impact situation rather than being a consequence of disaster agent impact.

Given the usual physical presence of communication means, the real problems in this area are in poor, incomplete, or inefficient information flow. The means

for processing communication will be present, but the information sent will not meet the requirements of the situation. Too often disaster preparedness planning focuses on the means of communication, leaving those managing crises struggling to cope with exigencies of information flow.

Organization problems associated with information flow are evident in at least five different categories of organizational behaviour: (1) intra-organizational; (2) interorganizational; (3) from organizations to the public; (4) from the public to the organizations; and (5) within systems of organizations.

The discussion which follows examines both mythological beliefs and the real information flow problem of organizations in community disasters. It indicates how false assumptions about organizational behaviour can undermine, and thus invalidate, disaster preparedness planning and requires tactical management of specific difficulties.

### *(1) Intraorganizational Information Flow*

All organizations have to communicate internally and constantly exchange information among group members under normal conditions. The communication system is designed to process and exchange relatively predetermined types and quantities of information. However, during a disaster, the number of staff using the communication system will often increase 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 used or volunteers may be incorporated into the workforce. Often, the existing communication system cannot accommodate the volume of information required by these additional 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 communication system failure or results in the loss or delay of information to, from, and among staff members.

Communications are normally supposed to go through certain channels. In non-crisis situations, the flow of information follows the usual 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 relatively clearly defined. However, during a disaster the channelling of information throughout the organization becomes more complex. For example it is not unusual for: several individuals to occupy a position previously held by one person; officials to assume non-routine tasks; and/or, 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 ensure that all relevant information will reach those group members who should be informed of organizational activities.

Preparedness planning can be very helpful in alerting and sensitizing relevant officials to the indicated sources and kinds of problems likely in intraorganizational informational flow. However, the great number of possible combinations and contingencies necessitates that managers at times of emergencies be creative in devising the tactics to address them. As such, exercises and training on how to be creative and imaginative under such circumstances would be more useful than detailed disaster plans.

### (2) *Information Flow Between Organizations*

Under normal circumstances, officials from different organizations will often communicate informally, since frequently the interacting parties are familiar with one another as friends and/or acquaintances. However, when a disaster occurs, formal contacts must often be established with previously unknown officials within organizations with whom there had been no pre-disaster relationships. In fact, it is not unknown for groups to be interacting with groups whose very existence was unknown before the emergency. Given this, formal informational flow between officials unfamiliar with others in strange organizations, will be difficult to initiate and maintain.

Prior planning can sometimes identify the more likely key organizations which will be involved in responding to a disaster (*e.g.* typically all the emergency organizations in the community, including the local emergency agency). However, it is particularly difficult to predetermine likely extra-community responders (except for very specifically oriented groups dealing with hazardous chemicals or radioactive materials). Training and exercises therefore have to emphasize that disaster managers must anticipate having to work with unfamiliar officials and groups, and use ways of identifying themselves (*e.g.* by name tag or distinctive head gear).

### (3) *Information Flow From Organizations to the General Public*

During normal times it is the rare organization which has to communicate with the population at large (most mass media system outlets would be examples of the exception). However, in disasters, organizations may have to pass on information to citizens in general, but this is often done rather poorly. Frequently this results from the organization's failure to understand that what is meaningful information to organizational personnel is not necessarily useful to endangered persons. For example, officials may gather detailed information about a flood or chemical threat. Using this information the organization will subsequently issue an official statement of 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 neighbourhood'. 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 instruction may well be the sum total of information in the public warning statement. 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 (*e.g.* new locations where paychecks may be issued or food supplies picked up) and potential threats mistakenly assume that their public statements will be as clear to the general population as they are to the organization officials issuing them.

Preplanning can address some of the general topics that an organization may want to communicate to the public in a disaster situation. Specific content details, however, have to be matters of tactical consideration. On the other hand, specificity of messages and clarity as to intended audiences can be thought of as principles of disaster management.

(4) *Information Flow From the Public to Different Organizations*

Conversely, the public often has difficulty obtaining emergency-relevant information from organizations. For example, frequently people will bombard certain groups with requests for aid, 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 process efficiently large volumes of information. 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 outside the organization, is interminably delayed.

In addition to normal (*i.e.* organizationally relevant) requests for aid and assistance, organizations must often respond to requests for information that is not part of the usual flow. Few organizations can respond effectively to non-routine questions. Consequently, persons assigned to switchboards or complaint desks often find themselves unable to cope with the increased demands for new kinds of information during crisis situations.

In preplanning, the more likely sources of citizen convergence for information can probably be identified for disasters generally and some specific disaster agents. But how to handle the problem is more of a management issue. Nevertheless, recognizing that there may be an information flow convergence on an organization can allow consideration of the tactical options that might be used (*e.g.* what organizational office will be designated as the sole contact point to handle enquiries, where that office itself will obtain information, and what kind of questions will not be answered). This will avoid the informational disaster which occurred, for instance, at Three Mile Island (see Dynes *et al.*, 1980).

(5) *Information Flow Within Different Systems of Organizations*

Often overlooked are information flow problems which arise as a result of the mobilization of different systems of organizations during community disasters. There is a tendency to think of organization not as systems, but rather as components operating independently of each other. But often there are sets or systems of inter-related specialized, organizations which 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 accomplishment of these and other disaster-relevant tasks involves far more than one-way information flow 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 or triage points, ambulances or transporting units, primary and secondary hospitals (both public and private), and segments of different authorities operating within diverse jurisdictions. Although the information flow within an organizational system is difficult during non-stressful periods, it can, and often does, become quite problematic during a community disaster, especially since there is an emergent quality in the behaviour of many systems at such times (*e.g.* key decision-making points may shift, as when the head nurse, and not the hospital administration, of a hospital may informally cut off victim intake).

Which organizational systems are likely to be operative at times of disasters can usually be identified in preplanning. But how to handle ensuing problems in system information flow as a result of emergent tasks and entities (see, for example, Quarantelli, 1984) will often be a matter of management tactics. Some studies of organizational emergence do provide some cues; for instance, we would hypothesize that it is easier to cope with information flow problems in systems that are primarily made up of vertically linked rather than horizontally linked subunits.

#### THE EXERCISE OF AUTHORITY AND DECISION-MAKING

Disasters require that some agencies and officials assume responsibilities, and make decisions. If the exercise of authority is weak during non-stressful periods, it will prove even weaker when disasters strikes. If authority is very 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 anticipated, and have more to do with decision-making than the authority structure.

Thus, the chain-of-command and lines-of-authority do not break down in established organizations. Even if there is inadequate information flow during a disaster, 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; in fact, decentralized organizational decision-making is a common feature of disaster.

A common belief is that organizations may be unable to function effectively due to conflict between the work role and the family role of officials. Occasionally expressed is the concern 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 (See Dynes and Quarantelli, 1986). At least it is not a major problem, especially in the higher echelons of organizations, for example, 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 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 decision-making 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.

### *(1) 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 the 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 decision-making positions, the disaster response capability of the organization can be seriously impaired.

At one level the problem would appear easy to solve; key decision-makers should be rested and/or replaced. For organizations with work shifts (*e.g.* many of the community emergency organizations) this often can be preplanned. For others, it becomes a question of tactical management and ensuring that personnel burnout does not occur (*e.g.* mandating 12-hour tours of duty) and that replacements be available (*e.g.* recalling personnel on vacation).

### *(2) 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 for performing large scale search and rescue activities or mass burials of the dead are normally not everyday tasks of established emergency agencies. But some group will have to take them on in a large scale community disaster.

To some extent, the problem can be avoided by disaster preplanning. However, for a variety of reasons, communities often have difficulty in planning which organizations should have responsibility for new tasks. The consequence is that the matter has to be attended to in an *ad hoc* fashion by the key decision-makers among those managing the emergency.

### *(3) Organizational Domain Conflicts*

Authority and decision-making problems surrounding the performance of traditional tasks sometimes arise between established organizations and outside or emergent groups. For example, 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 non-local 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 tasks(s) are almost certain to ask questions about its legitimacy and authority.

The problem often cannot be well handled in preplanning because the convergence from outside the impacted community is almost always of such a massive nature that it cannot be controlled in any way (Fritz and Mathewson, 1957). However, sensitivity to an almost inevitable clash between 'locals' and 'outsiders' will soften attributing the matter to 'personality clashes' and correctly seeing it as a social structural issue. At least that suggests managing tactics that focus on organizations rather than people.

#### *(4) 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.

This is one of the more difficult organizational problems in disasters since it comes out of the pre-impact situation and can have consequences for the post-disaster period, often fuelling or adding to the everyday community conflict picture (Quarantelli and Dynes, 1976). Tactically, a good solution is to obtain temporary consensus on areas of responsibility with the understanding that there will be no formal carryover into the recovery period. This might avoid perceptions and charges of seizure of organizational domains or turfs.

### THE DEVELOPMENT OF CO-ORDINATION AND LOOSENING THE COMMAND STRUCTURE

Too often disaster planners and managers assume that centralized control has to be imposed, from the top down, on emergency activities. This image is often summarized in the question: Who is in charge? This involves what has been called 'the command and control model' ostensibly taken from the military area. However, research has consistently shown that this is not a good model for disasters and makes the wrong assumptions about what is likely to be happening and what is needed (*e.g.* Dynes, 1983). But co-ordination, not control, is what is required and partly achievable. In fact, even in the military, the command and control model can seldom be applied well in actual combat situations; it is non-applicable and likely to be dysfunctional in a civilian context. Loosening rather than tightening up the command structure is better for the emergency periods of disasters, although not necessarily so for other phases. Co-ordination

is what is needed to be emphasized both in disaster emergency planning and managing, at least in developed societies.

However, while desirable, organizations typically experience a large number of co-ordination problems during a community disaster. Three major problems have been noted in social science research: (1) lack of consensus among organizations concerning the meaning of co-ordination; (2) strained co-ordination between organizations working on common but new disaster related tasks; and, (3) difficulties in achieving overall co-ordination in a community disaster of any magnitude.

#### *(1) The Lack of Organizational Consensus*

It is unusual to find any organization which does not agree, in principle, that co-ordination is needed during disasters. The problem, however, is that 'co-ordination' is neither self explanatory nor a matter of much consensus. At one extreme, some organizations view co-ordination, at best, as informing other groups of what they will be doing in the disaster. At the other extreme, some organizational officials see co-ordination as the centralization of decision-making in a particular agency or among a few key officials, thus confusing control and co-ordination. Given such diverse views surrounding the meaning of co-ordination, it is not surprising that even when a formal pre-disaster agreement to co-ordinate the disaster response exists, there can occur mutual accusations that one or both parties have failed to honour the agreement.

But prior agreement or not, an understanding of what co-ordination means in operational terms has to be developed if crisis management is to proceed well. Thus, organizational officials should be asking more than telling, requesting rather than ordering, delegating and decentralizing rather than narrowing and centralizing at the height of the emergency (Dynes, 1974). An attempt can be made to impose command control and this is sometimes done with the experience being cited as confirming the relevancy of the action, but this overlooks how things might have proceeded much better with a co-ordination model. As we have discussed elsewhere, experience of a single disaster is not necessarily good; it is possible to learn nothing at all, or worse, to learn the wrong lessons (Quarantelli, 1987). 'War stories' contribute little to military strategy and tactics, 'disaster stories' can be as similarly uninformative and useless, even though they may be dramatic or interesting.

#### *(2) Strained Organizational Relationships Created by New Disaster Tasks*

It is difficult to have co-ordination (*i.e.* mutually agreed linking of activities of two or more groups) between organizations working on common but new tasks. Even local agencies 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 personnel 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 co-ordination problem. It is partly the newness of many disaster tasks which create strained relationships among organizations which have 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 gradual developments of co-operative relationships are generally an impossibility given the immediate demands during the emergency phase of a community disaster.

Preplanning can sometimes identify both the interacting groups and the new disaster tasks which they might undertake. But a lack of experience in such a joint enterprise often creates management difficulties at the height of the crisis. Here, as in most other cases, emphasis should be on the principle of remaining as close as possible in the disaster situation to the most familiar of people, activities, interactions, *etc.* While new social actions and behaviours are sometime necessary in an emergency context, generally the new should be as close as possible to the old.

### (3) *Impact of Disaster Magnitude*

The larger the scope of a disaster and the greater the number of responders, the less is the likelihood of success of any overall organizational co-ordination. In fact, efforts to attain such co-ordination 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 measures undertaken during catastrophes in developing countries (for similarities and differences between disasters in developed and developing countries, see Quarantelli, 1986). But these steps do not always produce overall co-ordination. This is understandable.

In almost any society, major community disaster will precipitate a mass convergence of non-local organizations upon the disaster site (Barton, 1970). 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 total overall co-ordination during the emergency period. Good prior disaster planning may reduce effectively the convergence of such organizations and thus allow a relative degree of overall co-ordination. But such co-ordination remains relative at best and is frequently never fully 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 overall organizational co-ordination during disaster situations.

It is to be noted that the evaluation criteria used to judge the consequences of not achieving total organizational co-ordination determine to a large extent the significance of co-ordination in promulgating an effective community response to disaster. If efficiency of response is rated highly, lack of co-ordination 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 co-ordination. Co-ordination 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 co-ordination.

To indicate the above does not mean that preplanning and managing activities should not be directed at maximizing overall organizational or community co-ordination. Because everything cannot be achieved does not mean beneficial

measures are impossible. But a recognition of probable limits can make for greater realism.

In fact, one general theme of this article is the need for disaster planners and managers to operate in the real world. As this article has tried to show, this includes understanding the actual and not mythological organizational problems in disasters and that many of them have to be handled as crisis management tactical matters rather than preparedness planning strategies. Further study may refine these general points but it is very unlikely to contradict the research findings and implications that have been discussed in the preceding pages.

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