# CATASTROPHES ARE DIFFERENT FROM DISASTERS:
# SOME IMPLICATIONS FOR CRISIS PLANNING AND MANAGING DRAWN FROM KATRINA

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Hurricane Katrina has reinforced the view of some researchers that the scale of any collective crisis has to be taken into account in any analysis .To them, just as "disasters" are qualitatively different from everyday community emergencies, so are "catastrophes" a qualitative jump over "disasters"..

Systematic social science study of disasters (natural and technological) is about a half-century-old.  One of the first problems addressed by the pioneer researchers was in what ways disasters as social occasions differed from everyday emergencies.  In less than a decade of field research it was conclusively documented that community disasters were qualitatively and quantitatively different from routine emergencies.

 At the organizational level alone there are at least four differences:

(1) In disasters compared to everyday emergencies, organizations have to quickly relate to far more and unfamiliar converging entities.  One study of what was a major but nonetheless community limited massive plant fire in Canada found that 348 organizations appeared on site. They included seven departments of local government, 10 regional government agencies, 25 entities from the provincial government and 27 organizations from the federal level, as well as 31 fire departments, 41 churches, hospitals and schools, four utilities, eight voluntary agencies, four emergent groups and also at least 52 different players from the private sector (Scanlon, 1991).

(2) Adjustment has to be made to losing autonomy and freedom of action.  Since community and crisis time needs and values take precedence over everyday ones, all groups may be monitored and ordered about by social entities that may not even exist in routine times, or where the destruction of property is accepted to save lives in search and rescue efforts, or in the building of levees or firebreaks.

(3) Different performance standards are applied. For example, the normal speed of response and individualize care given to treating the injured is supersede by a need to curtail the level of care given to victims as well as spending time, efforts and resources on more equitably distributing the many victims in the available medical facilities.

(4) There is a much closer than usual public and private sector interface. The need for the quick mobilization of resources for overall community crisis purposes often preempts everyday rights and domains with private goods, equipment, personnel and facilities without due process or normal organizational procedures are often requisitioned or volunteered for the common good from everywhere and everyone, be they individuals or groups

Today it would be difficult to find any researcher who would challenge the distinction made.  It took longer, but slowly emergency managers came to accept

the distinction that sees disasters as more than simply a "very large scale traffic accident", a statement that the earliest researchers sometime heard in their fieldwork.

Even two decades ago some researchers were saying that there were "disasters" and that there were "disasters that were beyond typical disasters". The latter came to be called "catastrophes". However, only a few scholars have spent time trying to describe the characteristics of catastrophes, maybe because most researchers are more interested in doing empirical studies rather than clarifying conceptual distinctions (Perry and Quarantelli, 2005). That said, we will use Hurricane Katrina and its impact in southern Mississippi and the New Orleans area. as an almost textbook case of a catastrophe. However, since what happened in Katrina is not a new social phenomenon, we will first use earlier examples of what were called disasters but in our terminology would better be treated as catastrophes.

The distinction we draw between catastrophes and disasters is not just an academic exercise (although the distinction is also important for research purposes not discussed here). What is crucial is that catastrophes require some different kinds of planning and managing than do even major disasters. This is true whether the focus is on the planning for mitigation, preparedness, response or recovery. Because of space limitations however, we will focus mostly on the time period just before impact to the start of the recovery period.

Disasters and Catastrophes

A few of us have pushed this distinction for several decades. But it is only since the recent occurrence of certain very large scale "disasters" in American society, that the suggestion is being taken more seriously. We particularly have in mind what happened in St. Croix in the US Virgin Islands at the time of Hurricane Hugo, around Homestead, Florida during Hurricane Andrew, and very recently in New Orleans and other localities in Hurricane Katrina. Of course, even in just the last 100 years, catastrophes have also happened earlier in American society (such as from the hurricane that hit Galveston in 1900 and in the San Francisco earthquake and fire of 1906) as well as elsewhere in the last century ranging from the earthquake that hit Messina, Italy in 1906 to the Tangshan earthquake in China in 1986,

The differences that appear between disasters and catastrophes can be especially seen at the organizational, community and societal levels. For our purposes here, let us illustrate at least six general ways in which disasters and catastrophes differ.

In a catastrophe compared to a disaster:

1. Most or all of the community built structure is heavily impacted. For example, Hurricane Hugo destroyed or heavily damaged more than 90 percent of all homes in St. Croix. That made it impossible, for instance, for displaced victims to seek shelter with nearby relatives and friends, as they typically do in disaster situations. In contrast, only parts of a community are typically impacted even in major disasters. For instance, in the Mexico City earthquake of 1985, considered a major disaster, at worst less than two percent of the residential housing structure stock was lost, with only 4.9 percent of the population in a DRC survey reporting that there was great damage to the building in which they lived. Those forced out of their homes went to live with friends and relatives in the metropolitan area.

In addition, in catastrophes, the facilities and operational bases of most emergency organizations are themselves usually hit. After Hurricane Andrew in southern Florida, many structures that housed police, fire, welfare and local medical centers were seriously damaged or destroyed, making work operations in them impossible. While in a major disaster some such facilities may be directly impacted, the great majority typically survive with little or no damage.

The heavy damage in New Orleans and towns on the Mississippi coast in Hurricane Katrina was of a catastrophic nature with 80% of the city being flooded. Likewise, as a result of the flooding many key organizational work places were made inoperable. Even most high-rise buildings in the city, although structurally surviving almost intact, were not useable because of the flooding in their basements and first floors and the lack of electric power.

2, Local officials are unable to undertake their usual work role, and this often extends into the recovery period. Related to the observation just made, is that in catastrophic situations local personnel are often unable for some time, both right after impact and into the recovery period, to carry out their formal and organizational work roles. This is because some local workers either are dead or injured, and/or unable to communicate with or be contacted by their usual clients or customers and/or are unable to provide whatever information, knowledge or skills, etc. they can usually provide. For instance, in some recent catastrophes in some developing countries such as Indonesia in the 2004 tsunami disaster, practically all medical personnel in some towns were fatalities. In impacted Florida communities after Hurricane Andrew, many social workers had no way of communicating with or being reached by past or possible new users of their services. The general inability to provide usual professional or technical services happens, if at all, only on a very small scale in major disasters, and if it does, lasts only for relatively short periods of time.

One overall consequence is that because local personnel are casualties and/or usual community resources are not available, many leadership roles may have to be taken by outsiders to the community. Planning which assumes that local community officials should and will take an active work role in the immediate

post-impact periods of a major disaster is very realistic and a valid view. This can be assumed. However, if there is no place to work in or activities cannot be carried out, the motivation to do one's job may exist, but cannot be implemented in catastrophic occasions. Another negative consequence from outsiders having to come in is that the local-outsider organizational friction that only occasionally arises in disasters can become a major problem in a catastrophe.

In Hurricane Katrina the above and related problems have and are surfacing. There was certainly a great deal of work-family role conflict in key emergency organizations. At least anecdotal stories suggest that only about two-thirds of police officers reported for and remained on duty (that there were no such reports about the fire department may indicate additional organizational problems in the police department). Local mental health and welfare agencies also became inoperative. As outsiders move more and more to the front, there will be inevitable clashes between the locals and those from outside the local community.

3. Help from nearby communities cannot be provided. In many catastrophes not only are all or most of the residents in a particular community affected, but often those in nearby localities are also impacted, This has often happened in the typical typhoons that hit the Philippines, and this also occurred in many areas around Chernobyl after the accident at the nuclear plant there. In short, catastrophes tend to affect multiple communities, and often have a regional character.

This kind of crisis, for instance, can and does affect the massive convergence that typically descends upon any stricken community after a disaster. In a disaster there is usually only one major target for the convergence after a disaster. In a catastrophes many nearby communities not only cannot contribute to the inflow, but they themselves can become competing sources for an eventual unequal inflow of goods, personnel, supplies and communication

For example, under other circumstances, the devastated small cities in southern Mississippi after Hurricane Katrina could have anticipated a convergence of help and assistance from the major metropolitan city in the area, but of course there was none at all.

4, Most, if not all, of the everyday community functions are sharply and concurrently interrupted.

In a catastrophe, most if not all places of work, recreation, worship and education such as schools totally shut down and the lifeline infrastructures is so badly disrupted that there will be stoppages or extensive shortages of electricity, water, mail or phone services as well as other means of communication and transportation. This could be seen in many communities after Hurricane Andrew where in southern Dade County, more than half of the homes were totally

destroyed and/or suffered major damage.. In such kinds of situations, the damage to residential areas tends to be correlated with similar destruction of nonresidential areas. Among other things, it means that there are far more "social" facilities and activities that need to be restored to "normal" functioning after a catastrophe than after a disaster.

Even in major disasters, there is no such massive-across the board disruption of community life even if particular neighborhoods may be devastated as happened in the Mexico City earthquake of 1985, but life in many contiguous areas went on almost normally. Similarly this was true of the Northridge, Los Angeles earthquake of 1994; for instance, 12,000 people went as usual to the horseracing track in that California area the afternoon of the earthquake.

In Katrina, there was across-the-board and almost total disruption of community functions. In the absence of systematic studies that will take months to appear, we can only have educated guesses on what happened in the face of the massive disruption. It appears that one of the earliest consequences was that there was much decentralized decision making, particularly of an emergent nature. This could be seen in the evacuation of the hospitals, in the preparations for impact in many hotels, and in much of what happened in the French Quarters in New Orleans. As the crisis evolved, decentralized decision-making continued to be the norm in entities ranging from households to organizations. And this continued as the immediate crisis lessened, and different social entities and categories started to return to New Orleans. The idea that there could be any centralized control imposed on these disparate decisions and varying community activities flies in the face of what researchers have found occurs in crises.

5. The mass media system especially in recent times socially constructs catastrophes even more than they do disasters.

All disasters evoke at least local mass media coverage. Some major disasters can attract attention from outside the community media, but usually only for a few days. Even reporting on 9/11 dropped off considerably after a few weeks except in the New York City and Washington, D.C. metropolitan areas.

In catastrophes compared to disasters the mass media differ in certain important aspects. There is much more and longer coverage by national mass media. This is partly because local coverage is reduced if not totally down or out. There is a shift from the command point of view that prevails in disasters to an Ernie Pyle approach ("six feet around the foxhole") in catastrophes, especially by the electronic media. There is even more of a gulf between the content of the electronic media and the print media (with the latter focusing on looting and other dramatic visuals). There is far less of the normal filtering and screening of stories especially in the electronic media.

Some of the more important consequences of these kinds of media activity were that in Katrina there was far more diffusion of rumors than occurs in disasters. While looting did occur, which is atypical for disasters, the anti-social behavior was widely depicted as typical when the prosocial behavior was by far the norm (it should also be noted that a catastrophic situation is only one condition necessary to have mass looting).  The question of "who is in charge? was reiterated over and over again, as if it was a meaningful question, reflecting the command and control model that disaster research has indicated does not work well in disasters, much less in catastrophes.

6. Finally, because of the previous five processes, the political arena becomes even more important. All disasters of course involve, at a minimum, local political considerations.   But it is a radically different situation when the national government and the very top officials become directly involved. Even in very major disasters, a symbolic presence is often all that is necessary. In catastrophes, that symbolism is not enough, particularly for the larger society.

Part of this stems from the fact that catastrophes as happened in Katrina force to the surface racial, class and ethnic differences that are papered over during routine times. It is easy to take partisan political advantage of such uncoverings especially when they go against widely held cultural values and norms in democratic societies.   Another reason is that organizational weaknesses of responding organizations come even more to the surface.   The structural weakness of the Federal Emergency Management Agency (FEMA) as a result of its subordinate position in the Department of Homeland Security (DHS), as some disaster researchers had predicted for at least three years, became a major problem in the response.   The considerable expertise that still existed in the lower level professional ranks in FEMA could not make up for the badly organized FEMA-DHS interface.   Even competent social actors are limited in what they can do in a structurally flawed social system.

Have we discussed all already observed differences and more that may be subtler in catastrophes than disasters?  No, we have not.  Still more differences can be surfaced and found by looking at the local community planning and asking what does it assumes as being in place at impact time, keeping in mind that it is disasters and not catastrophes that are almost always assumed.

How Much  Different?

We have primarily highlighted differences. This does not mean that everything is different.   Research has not yet fully established what are the most significant differences given that work is still being done on disasters (Perry, forthcoming). It appears that the differences are more likely to appear going up the social scale from the individual to the societal level.  In the time period right around impact, at the individual human level, the reaction is remarkably similar and generally good. For example, citizens very seldom panic, family or household units mostly

undertake evacuation, and neighbors help one another. However, at the organizational level there is more differences in catastrophes compared with disasters and generally they will lead to a poorer response in t he former compared to the latter kinds of occasions. For example, in catastrophes there will be even slower organizational assessments of the problems in the situation. There will be poorer and more inaccurate information flows between agencies in catastrophes. There will be substantially greater difficulty in coordinating the organized response in catastrophes than in disasters. and make an incident command system (which is a dubious arrangement even for disasters) even less appropriate for a catastrophe. At the societal level, how Chinese society handled the Tangshan catastrophe was very different from how American society has reacted to the Katrina hurricane, and differed also from how China had responded to earlier disasters in their country. For other details of reactions to disasters see the DRC web site: http://www.udel.edu/DRC.

Nevertheless, the planning and managing principles that hold for major disasters are not necessarily invalid for catastrophes. It is probably still true that crisis time planning for a disaster or even a catastrophe ought to be as close as possible to everyday, traditional ways of doing things. Everything else being equal, the less citizens and groups are asked to act in unfamiliar or non everyday ways, the better the response will be. Also, planning from the ground up rather than from the top down while good for disasters is even better for catastrophes.

On the other hand, the qualitatively different demands and needs that surface in catastrophes compared to disasters, means that innovative and creative actions and measures will be required far more in the former than the latter. Actually any kind of crisis requires imagination in responding. But the most is required by a catastrophe because there will be more contingencies and unusual aspects in such occasions as could be seen in New Orleans at the time of Hurricane Katrina. And there were many such responses in that catastrophe, ranging from the household and neighborhood level to the organizational and institutional level, but we have no space left to discuss them.

## Where Does Terrorism Fit?

We have discussed primarily consensus situations and not conflict ones, that is such happenings as riots and terrorist attacks. These kinds of happenings are willful actions with the intent of major participants being to hurt others and/or damage property. Was 9/11 disaster or a catastrophe? While some scholars see such conflict occasions as also having distinctive characteristics, others think they can be categorized as disasters. No one as far as we know have yet conceptualized that maybe some of them might be catastrophes, although at the operational level a biological or nuclear terrorist attack seems often to be thought of as being possibly catastrophic.

The ideas in this essay are not the last word.  But if read as intended, we hope that readers will be encouraged to think outside of their usual perceptual boxes.

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