Week 8 – Response (Chapter 8 in Introduction to Emergency Management, Phillips, Neal and Webb)

The objective of Chapter 8, Response, is to provide you with an understanding of:

- The response phase in the context of comprehensive emergency management and "command post" image of emergency managers.
- The response phase and major activities typically undertaken.
- The process of issuing disaster warnings and the characteristics of effective disaster warnings.
- Myths and sources on individual, organization and community response to disasters.
- Contrasting myths with research on how individuals, organizations and communities respond to disasters, and sources of and limitations to resilience.
- The response phase in an international context and relevant issues in applying research to developing countries.
- The most common problems that arise during the response phase and effective principles of emergency management to overcome them.

Chapter 8 Objectives

In this chapter, we will look at the response phase of the disaster life cycle in the context of comprehensive emergency management. We will also look at the "command post" misunderstandings of emergency managers. The response phase will be defined and we will identify the major activities typically undertaken during response. Disaster warnings are important, so we will look at them, to include the process of issuance and the characteristics of effective disaster warnings so that people can take appropriate protective measures.

There are many disaster myths (and sources) on how individuals, organizations and communities respond to disasters. We will contrast myths with research-based findings on how individuals, organizations and communities respond to disasters and identify sources of and limitations to community resilience. We will look at them as to how response if affected. We will discuss the response phase in an international context and identify relevant issues to consider when applying research findings to developing countries. Finally, we will look at the most common problems that arise during the response phase of the emergency management life cycle and discuss effective principles of emergency management to overcome the challenges.

Some key concepts to remember about myths are how people behave in disaster, the reality that people respond to disasters differently (than the myths) and what constitutes effective disaster response. There are many myths out there about how people behave in a disaster. They all assume that chaos will prevail, there will be a social breakdown, irrational behavior will replace rational behavior and people will feel helpless. From past disasters, reality shows that people respond differently than portrayed in the myths; individuals are resourceful, organizations are adaptive and communities are resilient. Moving forward, you will see that effective disaster response emphasizes coordination, communication and flexibility.
You do not have to look far to find an example of how myths about people’s behavior in a disaster are inaccurate. The Boston Marathon bombing showed the best in people, how professional and volunteers worked in unison and how the extended community banded together and helped. “Boston Strong” and the “One Fund” were born and are still symbols of our resilience.

**Command Post View of Emergency Management**

There is often a misconception about emergency managers. Some envision them as working in a modern, high-tech emergency operations center (EOC), monitoring several information sources simultaneously, fielding non-stop telephone calls from the field and other sources, and making life-saving decisions. This perception ignores the other phases in the emergency management life cycle (also referred to as disaster life cycle) in which the emergency manager is involved, and assumes need for command and control. It envisions chaos.

The emergency managers spend time across all four phases of the disaster life cycle. This is because disasters are rare and much is done during mitigation, preparedness and recovery to be ready to respond. Also, emergency managers have numerous tasks ranging from arranging for mutual aid to ensuring adequate resources are available. They also spend considerable time thinking about response activities. The efforts spent in the other phases will benefit the first responders and emergency workers when it comes to responding to disasters. How? By assuring that, among other things, there are adequate resources available and communications are interoperable.

With regard to emergency management, disaster myths envision chaos. They assume the need for a strong leader to make the right decisions to keep everyone in line, but history indicates there will be “order in disorder” or “organized-disorganization”. The resiliency of individuals, communities and organizations, which can lead to order, are recognized and help dissuade the myths to some degree.
Myths assume the need for command and control. This is based on the idea that disasters create chaos and that society is fragile is not necessarily true. Myths also envision that the post-disaster environment is like a war-time scenario, thus, drives a military model viewpoint of control (this idea was discussed in an earlier chapter). The reality is that emergency managers are more effective when coordinating, communicating and empowering vice commanding and controlling. Emergency management, as well as incident command is more effective when it is decentralized, flexible, utilizes a problem-solving approach, rather than a rigid, hierarchical and centralized approach. This is equally important when a disaster involves political and national boundaries, has cascading effects and is of a significant magnitude. This is because these conditions cause change and the management and command structure must adapt to the changes.

**Getting Started: Defining Response**

We’ve discussed response in light of emergency management, command post views and myths. Now it is time to define response. The response phase of the disaster life cycle was defined by the 1979 National Governor’s Report as activities "...designed to provide emergency assistance for casualties…seek to reduce the probability of secondary damage…and to speed recovery operations.” Disaster response activities are defined as "...actions taken at the time a disaster strikes that are intended to reduce threats to: life safety, care for victims and contain secondary hazards and community losses.” (Tierney, Lindell and Perry, 2001)

Now that we have some classical definitions of response, I am sure you can craft one that can address an all-hazards approach. There are two sets of demands that emergency managers must address during the response phase. They are disaster-induced and response-induced demands. Disaster-induced demands involve the need to care for victims and deal with the physical damage and social disruption caused. Response-induced demands include the need to coordinate activities of the large number of individuals and organizations involved in the response. The emergency manager, during the mitigation and preparedness phases, should have set up the mechanisms to address the demands, as well as the framework for incident command as per the NRF and NIMS.

Using the Boston Marathon bombings as an example, what demands do you think the emergency manager or incident commander would have to address. (Note that MEMA sets up an incident command post in its bunker in Framingham for the Boston Marathon and other events in addition to disasters.) The immediate thought for a disaster-induced demand would
be the immediate and large-scale ramping up of emergency medical services beyond that arranged for a normal Boston marathon. With regard to response-induced demands, organizing and coordinating with the multiple agencies and levels of law enforcement, to include the FBI once terrorism was suspected. This was done quickly. Basically, emergency management and incident command for a routine event was escalated to a disaster in short order.

Typical Response Activities

In discussing response activities, two scholarly papers/books are good source documents for emergency managers to reference. Thomas Drabek (Professor Emeritus at the University of Denver) in his 1986 book on human system responses to disasters, separated response activities into two sub-phases; pre and post-impact mobilization. Pre-impact mobilization addresses warning the public, initiating evacuation, establishing shelters and mobilizing personnel, resources, etc. Post-impact emergency actions include search and rescue, and providing medical care to the injured, emergency workers, etc.

Kathleen Tierney (Director of the Natural Hazards Center at the University of Colorado Boulder) et al. in Facing the Unexpected (2001) categorized four related disaster and response activities. They are:

- Emergency assessment
- Expedient hazard mitigation
- Protective response
- Incident management

Emergency assessment includes damage assessments and monitoring hazards to the victims, responders and emergency workers (as they respond). Expedient hazard mitigation includes sandbagging and boarding windows pre-disaster and can include scene safety during response and recovery. Protective response is what it seems; search and rescue, emergency medical services and sheltering. Evacuation could also be considered as a protective response. Incident management includes, but is not limited to, activating the EOC and implementing the already established inter-agency and inter-governmental coordination.
**Disaster Warnings**

Disaster warnings are important, as they provide time to prepare, evacuate, etc. Some events, such as hurricanes and blizzards, provide sufficient notice to prepare and issue effective warning, but others do not. Tornadoes and earthquakes provide limited warning, but terrorist attacks do not. This requires preparedness and effective warning systems.

![U.S. Air Force “Hurricane Hunter” Aircraft](image_url)

Warning is the critical first step in the response phase. Since disasters vary in length of forewarning or can give no warning at all, as mentioned above, the public must be educated about the hazards in their communities. Warnings can be considered both a preparedness and response activity. Can you give an example? An earthquake’s aftershock? Flooding after heavy rains? The goal of effective warning is to lessen the burden on emergency management and first responders and provide people with enough warning to prepare and/or evacuate, if necessary. Disaster warnings have been studied for years. Despite this, public officials continue to develop ineffective warning systems. Can you figure out why?

**The Warning Process**

Before we discuss the components of the warning process, let’s look at an example. For Hurricane Katrina, many people did not evacuate. Why? It was assumed that everyone in the impacted area received warning messages, they (the messages) were clear and interpreted the same way by everyone who received them, and the residents had a level playing field in terms of ability to evacuate. The reality was that people do not always receive and interpret warning messages in the same manner, messages are not always effectively worded and delivered, and social factors impact the ability of people to heed warnings and take protective actions. As we saw post-Katrina, the latter was borne out because of the socioeconomic status and disability of many of the residents, especially in the Lower 9th Ward of New Orleans.
This is an important lesson to learn when developing and using warning systems.

Warning is a social process that involves several steps. The first two are receiving and understanding the warning. Next is believing that the warning is credible and confirming the threat. To mean something, you must now personalizing the threat and determine what it means to you. Then you determine what, if any, protective actions are required and feasible. Then, you take the protective action, as appropriate. This may seem to be an oversimplification of the process, but it is spot on.

**Taking Protective Action**

The nature of the hazard determines what protective actions are appropriate. Simply, primary protective actions include temporary sheltering (public or arranged) and evacuating. Taking protective measures is easier when you have sufficient warning and the resources. Without sufficient warning, proactive mitigation measures become more important and preparedness is essential. For a tornado, which affords minimal warning, mitigation measures, such as a storm cellar or safe room, will reduce the risk but not eliminate it. Preparedness is having a plan on what to do when a tornado warning is issued, as you will have very little time. As for a terrorist attack, you have virtually no time to mitigate or prepare. As an emergency manager, you must have mitigation measures and a preparedness plan in place to ensure a rapid and effective response. Hopefully, this would help prevent an escalation of the incident.
Evacuation and Temporary Sheltering

When addressing evacuation and temporary sheltering, activities span all phases of the disaster life cycle. During preparedness, emergency managers look at matching shelter availability and capacity with need. During response, the adequacy, physical condition (i.e. storm damage) and staffing are important. During recovery, transitioning to permanent shelters or returning home is the concern. And during mitigation, emergency managers and logistics staff look at providing more, better and safer shelters.

In addition to evacuating to designated shelters, sheltering in place is a common occurrence. It is common and widely recognized when the disaster is a tornado and is an effective means of protection when there is a hazardous materials release. Warning messages provide specific information on sheltering (i.e. in a basement or safe room and keeping windows closed). This information has to be disaster specific. This is because what may work for one may not work for another. Can you cite an example?

Temporary public sheltering urges people to evacuate their homes and go to designated locations for safety. This could also be at family and friends outside the impact zone and if you have sufficient time to evacuate such distances. Typical temporary shelters include, but are not limited to, churches, school gymnasiums, large arenas and stadiums, and convention centers.
Research into public sheltering has shown that few people show up at shelters during and immediately after disasters; most people just stay put. I am not sure that is true after the Gulf Coast hurricanes since 2005. The same research indicates that usage rates tend to be relatively low because of people’s reliance on friends and family. Many emergency managers over-estimate the amount of shelter use, but they must ensure the demand is met. That is sometimes is a challenge. New and additional shelters should be opened "as-needed" as existing ones begin to fill up.

Factors Affecting Evacuation and Public Shelter Usage

Protective actions are more likely to be taken when there are higher levels of overall community preparedness. From past experience, it has been seen that those who are more likely to take protective action are women, non-minorities and households that have:

- Children,
- Higher levels of education,
- Higher socioeconomic status,
- Knowledge of and heightened perception of risk, and
- Higher levels of community involvement.

Not all evacuate or seek shelter. Reasons for not evacuating and using public shelters include having pets or service animals, ineffective warnings and physical disabilities. Ineffective warnings are those that are vague, contradictory and where there is no consideration for the hearing impaired.

Characteristics of Effective Disaster Warnings

When determining disaster warning systems, the emergency manager and staff must consider many factors to make them effective. To do so, they must persuade those who receive them to take protective actions. Established warning systems include outdoor sirens, often used for tornados, and emergency alert systems on television, radio, etc. The latter can be used for most disasters. Newer warning technologies include cell phones, SMS/text alerts using smart phones and social media, such as Facebook and Twitter. Do you know why the newer technology could be a problem? One reason could be that a portion of the target audience is
not technology savvy and do not the newer devises or use social media. This is an educated guess because little is known about how and to what extent people use new technologies in general and during disasters.

Researchers have found that disaster warnings are most effective when they are broadcast frequently across multiple media, are consistent in content and tone over time and across media outlets and are fashioned to reach diverse audiences. The warnings should be specific and accurate about where the hazard is taking place and to whom the message applies. They should also be clear and delivered in simple terms with specific instructions on what actions to take, when to take them and why you are taking them. Truthful and authoritative warnings that are delivered by identifiable and credible sources are crucial.

Other research suggests that evacuation can be enhanced when emergency managers encourage family planning for evacuation during the preparedness phase and promote media consistency so as to avoid panic. Forceful, but not mandatory evacuation policies should be utilized and stressed. It is also important that public fears of looting are alleviated, transportation for evacuees is facilitated and family message centers established. The latter is important in calming people, especially when they locate family and friends.

Disaster Response: Myths and Realities

Myths are counterproductive and should be dispelled and substituted by facts and realities. Myth-based views to disasters assume that society is fragile and disasters cause a breakdown in social order. The fear is that this will lead to lawlessness, conflict, chaos and looting. Research-based views recognizes that society is resilient and, during disaster response, increased helping behavior and altruism occurs, there is a consensus among all involved and enhanced social solidarity is typically found. We can name many disasters where this has been displayed; Boston Marathon bombing, Gulf Coast hurricanes, 2011 tornado in Joplin, MO, etc.
The Myth-Based View of Disaster Response

When looking at myths in disaster response, there are 3 levels. They are individual, organizational and community.

Individual-level myths include the perception that people panic, are in shock and display a dependency, such as PTSD. This may be true in some occasions, but should not be considered typical of the general population. Organizational-level myths assume that organizations will suffer personnel shortages and be largely ineffective. This perception assumes that only emergency-related organizations will respond and “role abandonment” will occur. TSA, for example, has developed deployable teams of airport and surface transportation security staff from locations that are not affected by the storm or disaster. This so that the people in the affected area can take care of their families and homes, and not worry about TSA operations. For Hurricane Ike, TSA operations at Houston Hobby Airport were run by a nucleus of staff from Colorado Springs. Community-level myths deal with social disorganization and conflicts, and increased crime and looting. It is imperative that emergency managers, incident commanders and other disaster relief leaders dispel the myths and provide frequent and credible information to the public.

Sources of Disaster Myths

I suspect how disaster and any other public-focused myths develop. Mass media, to include television, radio and print media, often gives misinformation creating panic. Institutional interests, such as security contractors and technology firms, want the public and organizations to rely on their services, so what they put out could be self-serving. Society at large creates and perpetuates images of chaos to reaffirm chaos, panic, etc. And as professed by E.L. (Henry) Quarantelli (Professor Emeritus and Founder of the Disaster Research Center at the University of Delaware) professed, there is a need for social order in responses. This need is contrary to the myths of panic and chaos.

The Research-Based View of Disaster Response
As researchers have found and contrary to myths at all levels, individuals, organizations and communities exhibit resilience during disasters. The ability of individuals and social units to absorb and rebound from the impacts of a disaster is a display of the human spirit. While some societies and segments of society are more resilient than others, the overall concept of resilience has been confirmed by research. Can you think of a segment of society that is less resilient than others? Can you explain why? Just think of what happened to the Lower 9th Ward in New Orleans as a result of Hurricane Katrina.

There is a reality when dealing with disaster response. Like with the myths, there are 3 levels of reality; individual, organizational and community. Individual-level realities include self-efficacy, where disaster victims become “first responders” and convergence behavior is displayed, where there is an inflow of people, supplies, donations and information, to help the response and, then, recovery efforts. Key dynamics in individual level realities are the lack of panic, maintenance of social behavior and norms, and relationships. Organizational-level realities involve numerous and diverse organizations pitching in to help with people, resources and funds, and they embrace their roles in response, rather than abandon them. Community-level realities, although often contrary to what is being reported, etc., the crime rates drop and social solidarity increases.

Sources and Limitations of Community Resilience

Now that we understand that communities are resilient, what are the sources of the resilience and what are the limitations? With regard to sources, we find that the impacts of U.S. disasters are relatively low. Why you ask? I suspect it is, in part, because of the mitigation measures we have put in place, we are better prepared than our contemporaries throughout the world and we have professionals involved and processes in place. Also, disasters are shared experiences that create a unifying effect among the population. “Emergency consensus” is built upon community priorities for the benefit of all and social capital ensures community survival and provides guidance and resources for responding. Cultural values and traditions, social norms and obligations, and social relationships are the foundation of our resilience and altruism in time of need.

There are limitations, though. Catastrophic events may limit the ability of the community/society to effectively rebound. This creates a “tug-of-war” will our resilient nature. Vulnerable populations are more severely impacted than others and assistance may require the diversion of needed resources elsewhere. And, technological disasters sometimes produce conflict and “corrosive communities”. A “corrosive community” is social disruption, uncertainty and lack of consensus about what is taking place and who is responsible for the disaster. It is worsened when outsiders do not fully understand offering limited support.

Disaster Response and the Principles of Effective Emergency Management

What are the principles of effective emergency management in a disaster? First, we should understand some of the problems in disaster response. The 2 most common problems identified about disaster response are a lack of coordination among responding organizations and a breakdown of communications. We have spoken about this before. The problems of coordination and communication can be alleviated through comprehensive emergency management, which recognizes the commonalities among the different types of disasters; an all-hazards approach. This should be emphasized through all four phases of disasters.
The problems of coordination and communication can also be alleviated through integrated emergency management, which recognizes that many and diverse organizations are involved in responding to disasters. Effective coordination is facilitated through:

- Enhanced EOC configuration,
- Establishing a communications hub, rather than a command post,
- Using appropriate incident management frameworks, such as NIMS, and
- Effectively and properly using new technologies, such as, GIS, GPS and WebEOC.

A strong incident commander is also important.

![WebEOC](image)

Now that you have the tools and processes, and have effective communications and coordination, what is next? How about flexibility in emergency management? A ‘by the book” approach will not work. Improvisation at the individual level is important; field expediency. For example and when evacuating people, look at all avenues of egress to evacuate the injured. Don’t forget the doors. At the organizational level, adaptation is important. After 9/11, New York City’s EOC was relocated to Pier 92, after collapse of its original location at #7 World Trade Center.
Flexibility is important, but it does have limitations. Factors that can limit flexibility include internal and external constraints. Internal organizational constraints can arise from strict interpretation and adherence to standard operating procedures, task specialization that is too narrow, diffusion of responsibility and overreliance on technology. External constraints, as we would expect, center on bureaucracies and centralization, and legal liability. In the words of Gunny Highway in the movie *Heartbreak Ridge*, “improvise, adapt, overcome”. Follow procedures, but do not be thwarted or “hand-cuffed”.

**Working and Volunteering in Response**

We have discussed working and volunteering in the disaster life cycle. During response, emergency managers work at local, county, state and federal emergency management agencies and offices of homeland security. You will also find them in industry, especially those handling hazardous material, and with consultants that provide emergency management expertise. At the local level and the most visible, are the first-responders who generally work for police and fire departments and in emergency medical services. State National Guards are also in the emergency management business.

If you do not want a professional career in emergency management, there are many volunteer opportunities. They include the:

- Civil Air patrol and U.S. Coast Guard Auxiliary
- Red Cross
• Salvation Army
• Citizen Corps
• Community Emergency Response Teams (CERT)
• Medical Reserve Corps

Also and in addition to Neighborhood Watch and other programs, you can help map and organize your resources and programs.

If you wish additional training consider the following:

• FEMA Emergency Management Institute Independent Study Program courses
• First aid and CPR courses
• Other volunteer organizations, such as the National Ski Patrol (rescue and emergency medical training)