Disaster Case Study Analysis:
Evaluating the 9/11 Terrorist Attacks and Hurricane Katrina
Team Names
Introduction and Overview

Emergency management covers a wide variety of emergencies: from naturally occurring disasters such as hurricanes, earthquakes, and tornadoes, to man-made disasters that range from accidental chemical spills to terrorist attacks. These emergencies can be handled on multiple different levels, including local, county, state, regional, national, and even international.

The two disasters analyzed by this case study are the terrorist attacks on September 11th, 2001, and Hurricane Katrina. There are many differences between natural and man made disasters that make the planning, preparing, reaction, response, and mitigation for each disaster diverse. One positive aspect that disasters have in common is that they can provide lessons for emergency managers to improve their approaches in future disasters. The goal of this case study is to compare, contrast, and analyze the multiple stages of each disaster and how they would be handled differently today.

Background

**September 11th Terrorist Attacks**

The September 11th terrorist attacks, carried out by nineteen al-Qaeda terrorists, were the most deadly terrorist attacks in United States’ history. These Islamic extremists hijacked four airliners on the morning of 9/11/01; they flew two of the planes into the World Trade Center in New York City, one plane into the Pentagon, and the final plane crashed in a field in Pennsylvania, failing to reach its target. More than 3,000 people were killed as a result of these terrorist attacks. After 9/11 President George W. Bush declared the War on Terror, and invaded Afghanistan to find and kill those responsible for the attacks. The 9/11 Commission Report identified many problems within the Intelligence Community (IC), including the failure to share valuable information that could have potentially thwarted the attacks. 9/11 triggered many reforms in the U.S. government’s IC, including the creation of the Department of
Homeland Security. Since 9/11, there have not been any terrorist attacks remotely close to the large-scale devastation that occurred in 2001.

**Hurricane Katrina**

Hurricane Katrina, a Category 3 hurricane, hit the United States’ Gulf Coast on August 29th, 2005. There were winds between 100 and 140 miles per hour and was approximately 400 miles wide. Katrina hit Louisiana, Mississippi, and Alabama, but New Orleans received the brunt of the storm. The aftermath of the storm itself was disastrous, causing billions in damages. Levee breaks caused widespread flooding and hundreds of thousands of people lost their homes. The federal government, particularly FEMA, has been accused of being too slow in helping and supporting those affected. The hurricane affected about 90,000 square miles in the U.S. and killed nearly 2,000 people. Because of the damage created by this hurricane and the criticisms of the government’s lack of speedy assistance, many provisions were made to government agencies including DHS and FEMA, in order to better handle disasters similar to Katrina in the future.

**The Stages of Each Disaster**

**September 11th Terrorist Attacks**

*September 11th, 2001*

**Stage 1:** At 8:20am on September 11th, 2001, a federal administrator is alerted that two flight attendants have been stabbed on American Airlines Flight 11 and a chemical agent has been used. Over fifteen minutes later, Otis Air National Guard base in Massachusetts and NORAD is alerted to Flight 11’s potential hijacking status. Two fighter jets are sent to intercept the aircraft, but at 8:46am the plane crashes into the North Tower of the World Trade Center in New York City and they are too late.
**Stage 2:** Four minutes later, United Airlines Flight 175 has become uncommunicative with the flight controllers and the transponder codes have been changed. At 8:56am, American Airlines Flight 77 also becomes unresponsive, but NORAD is not alerted of this hijacking until twenty-eight minutes later.

**Stage 3:** At 9:02am, Flight 175 hits the South Tower of the World Trade Center. At 9:03am, FAA contacts NORAD about Flight 175 being hijacked. At 9:04am, Boston Air Route Traffic Control Center stops all departing flights from New England and New York. At 9:08am, the FAA stops all departing flights that are going through New York and bans flights from entering New York airspace. At 9:26am, FAA grounds all flights across the country. At 9:28am, Flight 93 is taken over by hijackers. At 9:34am, the FAA notifies the Secret Service, which in turn evacuates the White House when Flight 77 turns toward Washington, DC. At 9:37am, Flight 77 has crashed into the Pentagon.

**Stage 4:** Around 10:00am, United Airlines Flight 93 crashed in Pennsylvania. Around the same time, the South Tower of the World Trade Center collapses. There are a number of people that are trapped in the rubble and debris, and there is a credible threat of terrorism that may still occur.

*Today’s Response Activities*

**Stage 1:** The federal administrator should immediately make sure all aircrafts in U.S. airspace are accounted for. If the status of all planes is not affirmed, he or she should contact DHS, DOD, FAA, and the White House to alert them of the incident, as well as determine their level of authority. If authorized, he or she should send fighter jets to intercept the non-responsive aircrafts. If the main communication server is disrupted, he or she should rely on ad hoc wireless networks technology to assure that information is being relayed as soon as possible without interruption.

**Stage 2:** The federal administrator assumes that other planes could be hijacked and should make contact with all aircrafts and request them to land, as well as with airports so that they are prepared for the incoming planes. In addition, he or she should contact agencies that are responsible for data mining, or using supercomputers to sift through multiple databases to quickly make connections, to assist in
determining how many other aircrafts and infrastructures are at risk. He or she should also confirm that the multiple government agencies have been notified of the incident.

**Stage 3:** The federal administrator should continue to contact any aircrafts still in the air and send fighters jets to non-responsive aircrafts. He or she should confirm that the White House is being updated on the most up-to-date status of the incident, as well as continue to share information with all U.S agencies involved.

**Stage 4:** The federal administrator should, at this point, have all the non-penetrated aircrafts out of the sky, and should focus on the unresponsive aircrafts by tracking their movements and constantly attempting to make contact. Also, the location of the nonresponsive aircrafts should be determined and any critical infrastructures in their vicinity should be pinpointed, and subsequently warned and urged to evacuate or be blocked off from the public. Information sharing and updates should still be communicated to all involved agencies, and the organizational elements of the NRP (NRCC, IIMG, JFO) should be activated.

Hurricane Katrina

*Hurricane Katrina, 2005*

**Stage 1:** The governor of Louisiana gets notice of an upcoming Category 3 hurricane. The U.S. Coast Guard mobilized 400 reservists and the Federal government announced a state of emergency in order to retrieve resources.

**Stage 2:** 80% of the population evacuated and a request for emergency assistance from FEMA was sent, but they have not responded yet. The state’s three-phase evacuation from affected areas is disrupted because many private hospices, medical facilities, and retirement communities in New Orleans require private transportation and cannot evacuate without it. Fuel, rental cars, and public transportation decreases in availability.
**Stage 3:** Hurricane Katrina’s category increased to Category 5, which called for mandatory evacuation in the largest port city. The mayor of this city created a refuge center out of a sports arena, but the arena did not have water or food in storage. At this time, the Canadian National Railway, the Amtrak system, and the Waterford nuclear power plant closes down.

**Stage 4:** New Orleans is hit by the hurricane, and 53 major levees fail and more than 80% of the city is underwater. The governor receives reports of individuals being trapped in their homes and hundreds of thousands of Louisiana’s citizens are without electricity. Suburban areas surrounding New Orleans, and the critical infrastructure surrounding them, are affected due to the flooding of Lake Pontchartrain, and the death toll begins to rise. There is a heightened concern for distributing water to citizens because of potential toxic chemicals in the water.

**Stage 5:** Hurricane Katrina creates chaos and violence from the people and they attack law enforcement. The National Guard had to step in to prevent more of these attacks, because many police officers and firefighters had fled the city. At this point, FEMA has yet to provide aid and the American Red Cross wants to provide assistance, but is not allowed to because of the violence and crime in the area.

**Stage 6:** The National Guard saved more than 33,500 out of the 60,000 people that were involved in the disaster. In total, there were 1,836 deaths along with over $86 billion in damages. The FEMA director resigned, the mayor of the main port city was deemed inadequate and the state’s administration was looked at with suspicion.

*Today’s Response and Recovery Activities*

**Stage 1:** Through understanding the catastrophe modeling community’s new technology that models the potential impacts of storm surges, the governor of Louisiana can determine which areas will be most heavily affected by the storm and should be required to evacuate. He or she should also ensure that such an evacuation plan exists, and is properly outlined in Louisiana’s Emergency Preparedness Guide. The port city should be closed off to shipping until further notice, and the governor should
repeatedly urge citizens and businesses to review the Preparedness Guide and utilize smart phone apps such as Get a Game Plan and Alert FM. At this stage, the governor should also contact and communicate with both local and federal agencies, including the National Guard, FEMA, DHS, GSA, and DOT, as well as establish a WebEOC Crisis Management System to improve communications.

**Stage 2:** The Governor should request FEMA to send an Incident Management Assistance Team to aid him in the decision-making process regarding how to prepare for and respond to the hurricane. Also, he or she should establish two-way information sharing between public and private sector stakeholders through the National Business Emergency Operations Center. To address the evacuation situation for special needs groups, he or she should contact the National Guard and Office of Disability Integration and Coordination to receive guidance and assistance with accessible transportation.

**Stage 3:** The governor should order the National Guard to evacuate residents that have not been transported, and the USDA, GSA, FEMA, and American Red Cross should be contacted for assistance in food, water, and other resource supplies to the refuge centers. He or she should utilize WebEOC to communicate with local communities to see if they have resources that could be used to assist in evacuation of the remaining residents. The governor should contact DOE for support in addressing the loss of energy throughout the state.

**Stage 4:** The governor should continue communications with all involved agencies, and should request support from the U.S. Coast Guard, DHS, and FEMA in the search and rescue process. The address the hazardous materials situation, he or she should also contact EPA. The improvements made the levee system should have reduced the amount of damage caused by the hurricane and the governor should ensure that this new technology is efficient, and if it is not, he will need to rely on construction crews and engineers to fix the problems that may arise.

**Stage 5:** To address the violence and criminal acts occurring in the port city, the governor should communicate with DHS, DOJ, the National Guard, and the Louisiana State Police force, and should provide security to the American Red Cross’ disaster relief efforts. He or she should maintain contact
with all agencies through the WebEOC, including DHS, FEMA, HHS, GSA, DOD, DOE, DOJ, DOC, USDA, Treas, and SBA. Helicopters and small boats, among other resources, should be requested to rescue and provide food and water to trapped citizens.

**Stage 6:** The governor should focus on providing temporary shelter and housing, as well as allocating resources to fix and problems with the levee system. He or she should also maintain communications with all agencies, especially FEMA and the Red Cross, to obtain federal and private resources in the recovery phase. He or she should also communicate a recovery plan to residents and ask them to stay updated through mobile phone apps and other outreach mechanisms.

## Compare and Contrast: Disaster Responses and Outcomes

### September 11th Terrorist Attacks

There were a multitude of pre-9/11 problems that affected all phases of emergency management surrounding the timeline of the terrorist attacks. The CIA, FBI, DOD, and FAA all lacked knowledge and planning in the department of terrorism occurring within our country. They looked outward for an attack against them instead of investigating on the domestic level. There also was a serious issue with information sharing throughout the hierarchies within each department and especially with other agencies. An example of this was that names on terrorist watch lists were not expanded to include them in no fly lists. The TSA did not have strict rules against box cutters and did not inspect passengers’ luggage thoroughly. The response to 9/11 was completely improvised. There should have been crucial planning and training for a potential attack like this beforehand, but there were none.

In order to prepare for an attack like this, there should have been development and revision policies, procedures, mutual aid agreements, and plans relating to emergency management and incident response program. There is always a need for standard operating procedure. Regardless of the fact that there is no such thing as a ‘standard’ terrorist attack, there should be a standard underlying procedure that can be referred to in order to adapt to the specific situation at hand.
The 9/11 attacks triggered many governmental reforms that could prevent such devastating attacks from occurring today, as well as better respond to future and potential disasters such as terrorist attacks. The 9/11 Commission Report originally outlined the abovementioned problems with the emergency management procedures in the 9/11 case. Since these problems have been addressed, there have been many steps taken to prevent the same problems from occurring again. The Department of Homeland Security was created in 2003, and in the following year NIMS was established. These two establishments were meant to address the previous problems, specifically with information sharing and handling disasters. The DHS and the NCTC were designed to facilitate meaningful information sharing between agencies to foil terrorist plots against the U.S. NIMS was conducted to provide a clear plan for emergency managers in both the public and private sectors to follow and better communicate in all stages of a disaster. In addition, the Federal Response Plan was replaced with the current NRP.

There were also many technological advances made after 9/11 that will better assist emergency managers in responding to and communicating during an attack. Ad hoc wireless networking is an important technology for communication in the case that other methods fail. Also, data mining through various databases is helpful in quickly connecting information at the time of an attack to determine the scope of the threat. For airport security, in addition to the more enhanced no-fly lists, there are greatly improved screening technologies to search individuals before they are allowed to board a plane. There is also more advanced technology at the hands of the government, including the NSA’s ability to collect metadata between known terrorists and their contacts in order to prevent attacks from being carried out.

**Hurricane Katrina**

The main federal failures of Hurricane Katrina were as follows: the federal officials were not effective, the public was misinformed, there was no proper training and government officials were inexperienced, despite the knowledge of the hurricane the government was still unprepared, they took days to provide medical supplies, and multiple government agencies turned down the request for aid.
Overall, the planning, preparing, response, and recovery activities regarding Hurricane Katrina were failures.

These failures caused the government to create federal organization reforms in incident management. In particular, the Post-Katrina Emergency Management Reform Act of 2006 appointed the mission and priorities of FEMA and improved the relationship between state legislative authorities with local state, tribal, and territorial governments throughout the phases of disaster. This gave FEMA the ability to allocate resources to states, tribes, and territories when they are in need, particularly before a disaster occurs, if these organizations are unable to do so on their own. The act also implemented a National Disaster Recovery Framework, which gives defined coordination structures, leadership roles, and guidance to all agencies in the U.S. and their NGO and private partners, which enhance the use of communication and organization among emergency managers that was lacking during Katrina. NIMS and the NRF are also two important governmental reforms that assist in the improvement of planning and response activities.

There have also been many technological and structural advances since Katrina. Disaster simulations, which were misused and disregarded in 2005, were improved drastically and now give states a better idea of how a hurricane could affect certain areas. Levee systems were rebuilt and improved so that there was less chance of breaks, such as those that had happened during Katrina. WebEOC is an important technology created to facilitate communication among organizations, and the emergence of smart phone apps are a great tool in forewarning and communicating with the public in order to make them more aware of their surroundings and the actions they must take. Without these technological and structural advances, the government could face another disastrous aftermath from a hurricane similar to that of Katrina.
Comparison of the Case Studies

There are multiple similarities and differences between the two disasters discussed in this case study. The main problem in each disaster was the lack of communication between agencies. While in Hurricane Katrina it could not have prevented the disaster from happening like with the 9/11 terrorist attacks, it could have addressed other issues regarding the federal government’s response, including the time it took to allocate federal resources. Also in both cases, there was a lack of proactivity in the government. Had there been better training, at-ready resources, and organization in the response to both Katrina and 9/11, the outcomes could have resulted in less loss of life. These large mistakes triggered governmental reforms after both 9/11 and Katrina, such as the creation of DHS, NIMS, and the NRP.

These disasters urged the government to reform their all-hazard approach to emergency management. There are many broader differences between natural and man made disasters as well. The planning process is much more important in natural disasters than in man made disasters, because natural disasters such as hurricanes can be planned for, whereas terrorist attacks are clearly not anticipated and therefore the response and recovery are not extensively planned out. The preparedness process in man made disasters also differs from natural disasters. The government does not prepare for terrorist attacks, rather they attempt to prevent them through counterterrorism measures and the Intelligence Community. In natural disasters such as hurricanes, there is at least some forewarning that lets communities better prepare for the storm and evacuate if necessary. In sum, no disaster is exactly the same; but using an organized, comprehensive all hazards approach in both natural and man made disasters can assist in the preparedness, planning, response, and recovery from large-scale terrorist attacks and natural disasters.
Key Issues and Concerns

Moving forward, there are a number of key issues regarding emergency management functions in both natural and man-made disasters. Firstly, it is important for organizations to take away from past failures and reform and grow from them. Mitigation processes aid in the growth and strength of communities at the local, state, national, and international level. It is important, then, for government agencies, NGOs, and the private sector to work together to follow the NIMS in the case of an emergency and to communicate thoroughly to avoid repeating past mistakes. A final concern, from reviewing these case studies, is for the government to not lose the balance in efforts given to natural and man made disasters. What we mean here is that if there is a heightened threat of terrorism, resources used to prepare for, respond to, and recover from natural disasters should not be minimized.

Summary and Conclusions

In sum, this case study presents a comparison of both a natural and man made disaster, as well as a comparison of how each disaster was handled at the time as opposed to how it would be handled today. It is a potential fact that lives could have been saved in both 9/11 and Hurricane Katrina had there been better communication, technology, and training of government agencies. Rather than dwelling on the past, it is important for the government and emergency managers alike to move forward and constantly review and improve their policies. Conclusively, it is important to take away from past disasters and learn from mistakes. In the grand scheme of emergency management, natural disasters do not outweigh man made disasters, and vice versa. There should be an equal balance of resources among emergency management agencies regarding the safety of American citizens when both natural and man made disasters strike.
Sources:


https://www.hsdll.org/blog/view/s_4276

http://college.cengage.com/polisci/duncan/world_politics_sce/1e/assets/students/case/duncan_le_case_c_h01.pdf