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# Media Impacts on Disaster Management and Policy

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This chapter focuses on 1) The changing roles of the media as it relates to disaster management immediately before, during, and in the aftermath of an event; and 2) The media's impact on disaster management policy-making in the months following the event. It begins with a case study analysis of the media's coverage of the problems related to disaster management in the post-landfall period of Hurricane Katrina in 2005. The case study shows that in the immediate aftermath of the event, traditional media<sup>1</sup> coverage played an important role in drawing attention to the magnitude of the disaster, despite some initial challenges with obtaining accurate information. The case study then provides a cursory view of U.S. disaster-management policy changes in the aftermath of the event. The chapter concludes with a brief summary of the ways in which social media (in particular, Twitter) has changed the ways in which the U.S. Federal Emergency Management Agency (FEMA) manages a disaster in real time. This summary, which includes examples from Superstorm Sandy and other recent events, can be compared and contrasted with the ways in which accurate information was difficult to come by in New Orleans in the hours and days following Hurricane Katrina's landfall.

The case study approach to this chapter was chosen because quantitative research approaches have been unsuccessful in measuring mass media influence on public policymaking. Case studies can be defined as "a story of a problem," dealing with actual events, organizations, and decision makers (Hoag et al. 2001, p. 50). Problem solving "can be measurably improved by the case study method" (Hoag et al. 2001, p. 49). The case study approach may have greater success in establishing a situation-by-situation analysis of how the mass media impacts the policymaking process, by examining high-profile natural disaster events such as this one.

This chapter provides an illustration of how a more developed country (U.S.) anticipates, prepares for, copes with, and learns from a natural disaster.

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<sup>1</sup> For the purposes of this chapter, traditional media is defined as "Any form of mass communication available before the advent of digital media. This includes television, radio, newspapers, books, and magazines." (<http://www.igi-global.com>), while we use Kaplan and Haenlein's (2010) definition of social media as "... a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content."

### 3.4.1 TRADITIONAL MEDIA COVERAGE OF HURRICANE KATRINA AND CHANGES TO U.S. DISASTER MANAGEMENT POLICY IN ITS AFTERMATH

In the days immediately following Hurricane Katrina's landfall in Louisiana and Mississippi, a multitude of reporters besieged New Orleans, and reported a city overwhelmed by the devastation of nature, human misery, and crime. Each media report re-emphasized a city suffering from a catastrophe. These reports first demonstrated government incompetence and then later showed government response to the problems.

The reports of atrocities in New Orleans shocked the nation and the world. Audiences heard and read about a city in anarchy and subhuman living conditions at the Louisiana Superdome and New Orleans Convention Center. However, many of the reports of violence were false and could not be verified. Reports were based on rumors several times removed from the source. For example, on 5 September 2005, the *Financial Times of London* attributed the following report to unnamed "refugees": "Girls and boys were raped in the dark and had their throats cut and bodies were stuffed in the kitchens while looters and madmen exchanged fire with weapons they had looted." The report claimed that "several hundred corpses are reported to have been gathered by locals in one school alone" in St. Bernard Parish, the badly flooded community just east of the city. A similar report indicated that up to 300 bodies were piled in Marion Abramson High School in east New Orleans. Reporters from the *New Orleans Times-Picayune* canoed to the school, went inside, and found no bodies.

"Stone-age storytelling got amplified by space-age technology," according to Thevenot (2005). Rumors of bodies in the Superdome were retold several times and finally reached the media. When "the media arrived, with satellite phones and modems, BlackBerrys, television trucks with the ability to broadcast worldwide and the technology to post on the Internet in an instant," most of them did not realize that the "normal rules of sourcing no longer ensured accuracy." (Thevenot 2005). The stories went global as officials, hurricane victims, and rescue and security personnel confirmed nightmarish scenarios, sincerely believing what they were saying and wanting desperately to get the word out so that help would come. The media also believed the stories they were telling, repeating without verification the stories being told by the officials. When it was discovered that the stories were false, the media were criticized. However, it was the media who revealed the falsehood of the stories. The only way that the public knew about the bad reporting was that the journalists told them.

Despite these early missteps, the traditional media's coverage of the government response to Katrina had an impact almost immediately in Washington. One of these was the firing of Michael Brown, the FEMA director, in the midst of the Federal Government's response to the hurricane's aftermath. Following Katrina, Congressional Hearings applauded the unselfish service of over 60,000 volunteers, while at the same time, were highly critical of the Federal Government's response (Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina 2006). Next came a major reorganization of FEMA itself as a result of the Post Katrina Emergency Management Reform Act in 2006 (PUBLIC LAW 109-295—OCT. 4, 2006), which directed FEMA to take the following actions (FEMA n.d.):

- "Establishes a Disability Coordinator and develop guidelines to accommodate individuals with disabilities."

- “Establishes the National Emergency Family Registry and Locator System to reunify separated family members.”
- “Coordinates and supports precautionary evacuations and recovery efforts.”
- “Provides transportation assistance for relocating and returning individuals displaced from their residences in a major disaster.”
- “Provides case management assistance to identify and address unmet needs of survivors of major disasters.”

The traditional media’s coverage of Hurricane Katrina’s aftermath kept the focus on this disaster long enough to influence the immediate change in FEMA leadership and ignite Congressional investigations that led to FEMA organizational changes. It also likely influenced some of the long-term and significant changes that occurred in the change of focus of the Department of Homeland Security (DHS), FEMA’s parent department. Why was DHS focused nearly entirely on counterterrorism at the time of Hurricane Katrina? By way of background, following the September 11, 2001 terrorist attacks, the National Strategy for Homeland Security (Office of Homeland Security 2002) focused on terrorism as the main concern of the new DHS. The strategic objectives of the department, in order of priority, were to a) prevent terrorist attacks within the United States, b) reduce America's vulnerability to terrorism, and c) minimize the damage and recover from attacks that do occur. As a result of Hurricane Katrina and the Congressional Hearings, the DHS changed its focus to consider other forms of disasters in addition to terrorist attacks (Homeland Security Council 2007).

In 2010, the first-ever Quadrennial Homeland Security Review (Department of Homeland Security 2010) established new missions for the department that included an all-hazards approach to dealing with disasters. The missions were listed as a) preventing terrorism and enhancing security, b) securing and managing our borders, c) enforcing and administering our immigration laws, d) safeguarding and securing cyberspace, and e) ensuring resilience to disasters. At the same time, the DHS has established measures to be more prepared for natural disasters. Among these measures was a greater focus on training and preparation. This included expanding the use of the National Incident Management System (NIMS) and the Emergency Management Assistance Compact (EMAC).

The NIMS is the first-ever standardized approach to incident management and response. Developed by the DHS and released in March 2004, it establishes a uniform set of processes and procedures that emergency responders at all levels of government will use to conduct response operations. The Emergency Management Assistance Compact (EMAC), established in 1996, was praised during the Congressional Hearings on Katrina. When the Federal response failed in the immediate aftermath of Katrina, the states and local communities using EMAC were able to provide desperately needed assistance, especially for security and law enforcement (Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina 2006). The EMAC mutual-aid agreements and partnerships between member states exist to deal with disasters ranging from hurricanes to earthquakes, wildfires to toxic waste spills, and terrorist attacks. EMAC is the first national disaster-relief compact to be ratified by Congress since the Civil Defense and Disaster Compact of 1950. Since its ratification and signing into law in 1996 (PUBLIC LAW 104–321—OCT. 19, 1996), 50 states, the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands have enacted legislation to become EMAC members.

In 2015, FEMA further refined its mission by identifying a preparedness goal with five mission areas: prevention, protection, mitigation, response, and recovery (FEMA 2015). The agency developed and published strategic plans for the years 2011–2014 and is now in its second iteration of strategic plans for 2014–2018.

Previous studies (Fisher 1991; Fisher and Soemarsono 2008) suggested that the media might generally have had little impact on public policy. While the traditional media bring public attention and the attention of politicians to an issue, they are unable to sustain the kind of coverage that is required to see public policy through. Thus, the media usually play a minor role in the *adoption* of public policy. Over time, the interest of the traditional media in an issue wanes. Haiti's tragic earthquake and the aftermath is an example. The international community reacted quickly to support the victims, in large part due to traditional media coverage. However, little has changed for the victims in Haiti. Many remain homeless. Traditional media attention has faded (The Toronto Star 2011). By contrast, in the case of Katrina, the traditional media played a significant role in bringing about immediate and longer-term changes to the way the Federal Government responds to disasters. The media did not act alone in bringing about these changes, but rather in concert with pressure from the public, and local and state politicians (Fisher 2014). Why was Katrina different from other natural disasters? One possibility is the "issue-attention cycle" proposed by Downs (1972), suggesting that a traumatic event is required to "catapult" an issue to the attention of the public and policy makers. In this case, the horrendous impacts from Katrina kept natural disasters in the forefront of American consciousness. While many aspects of the tragedy have been dealt with, some, like the need for public policy to deal with poverty as it is impacted by disasters, have not.

To truly have impact on public policy, the media must provide consistent and continual coverage to follow-up on issues. The press must go beyond simply bringing issues to the public's attention, and thoroughly examine the problems and suggest solutions. However, this will only happen if the public also shares an interest in finding solutions to the public policy problems. How might this happen? The advent of social media in the late 2000s and early 2010s may be a way of keeping the attention on these issues, as we will see in the next section.

### **3.4.2 THE EVOLVING ROLE OF SOCIAL MEDIA IN THE WAKE OF RECENT NATURAL DISASTERS**

If Downs' (1972) "issue-attention cycle" suggests that a traumatic event is required to "catapult" an issue to the attention of the public and policy makers, then Superstorm Sandy in 2012 appears to have had a sustaining effect on both the public and politicians. Additionally, it has led to numerous studies on the impact of climate change on disasters (e.g., Thompson and Kahn 2014). However, while the traditional media played a significant role in reporting the hurricane and its impact on the population of the eastern U.S. (\$19 billion of damage in the New York City area alone), they appear to have done little to follow-up and push forward a policymaking agenda.

While this may have been the end of the story in most natural disaster scenarios, there was something different about this particular storm. From Sandy there was a wealth of data available to scientists and decision makers pointing to failures in responding to the storm and to the opportunities that followed the storm (Thompson and Kahn 2014). The data came from "traditional" sources such as weather observation platforms, and "non-traditional" sources such as cell phones, security cameras, population surveys, and social media. While none of this seemed to affect the regular news cycle, as the traditional media began to lose interest in Sandy, it is possible that Sandy heightened awareness and use

of social media in the post-disaster stages of response and recovery. So while traditional media still played an important role in covering Sandy, more people used social media to keep informed and to protect themselves. Although it is not possible to attribute social media directly as a motivator for policy, we note that a mere three months after the disaster, the bi-partisan Disaster Relief Appropriations Act of 2013, also known as the “Sandy Supplemental Appropriations Bill” (PUBLIC LAW 113–2—JAN. 29, 2013), was passed into law. The Sandy Supplemental Appropriations Bill provided supplemental funding to over a dozen Federal departments and agencies for post-storm aid and restoration. A small fraction of the bill’s \$61 billion allocation provided funds to the National Oceanic and Atmospheric Administration (NOAA) for “Procurement, Acquisition and Construction” activities, which included supercomputer acquisition to enable improved numerical weather model forecasts.

If we contrast the social media environments of Katrina and Sandy, which were 7 years apart, we find some interesting differences. When Hurricane Katrina hit the shores of Louisiana and Mississippi in 2005, Facebook® was just getting started and Twitter did not yet exist. Now, FEMA has a Twitter account that had nearly 400,000 followers in 2015, and former FEMA director Craig Fugate had his own page, @CraigatFEMA, with over 50,000 followers. In FEMA’s 2013 National Preparedness Report, the department indicated that during and immediately following Hurricane Sandy, “users sent more than 20 million Sandy-related Twitter posts, or ‘tweets,’ despite the loss of cell phone service during the peak of the storm.” (FEMA 2013). New Jersey’s largest utility company, the Public Service Enterprise Group (PSE&G), reported that during Sandy they used Twitter to notify the public of the daily locations of their giant tents and generators (Maron 2013).

While these are hopeful signs, inherent risks exist in using social media. One is misinformation. Sutton (as cited in Maron 2013) claims that “all the fast-paced information available via social media does pose inherent risks when navigating emergency situations.” Although false information eventually gets corrected by the “Wikipedia effect”, by which other users correct the information, Sutton notes that inaccuracies can also “go viral”. Rumor Control, run by FEMA, relies on local emergency personnel to correct misinformation (FEMA 2013). Another risk is fraud. The American Red Cross used cell phone technology to raise more than \$5 million in the 48 hours following the Haiti earthquake in 2010, but at the same time, cell phone texting and webpages were used by criminals who appealed to emotion to steal cash (Maron 2013). After the Newtown, Connecticut, school shooting, the FBI arrested a woman who claimed to be the relative of a dead victim and solicited money via Facebook and other sources (Maron 2013).

Since 2010, FEMA has used Twitter during all stages of a disaster, from before the event strikes, during the actual event, and after (Modern Business Associates 2011). Prior to a disaster, FEMA monitors local weather reports (and tweets) and advises the public. As an example, in the case of floods, FEMA’s posts on Twitter outline the parts of the U.S. experiencing flooding, share information about flood preparedness, and give advice to people about what they can do. The agency relies on official information, including forecasts from the National Weather Service and links from official emergency management agencies. FEMA typically re-tweets information from other government agencies. They use a tool to shorten “.gov” web addresses and can track how many hits each individual link draws (Modern Business Associates 2011).

The agency also uses social media to try to predict what a state might need to do to prepare for a potential disaster. For example, in one of its first attempts to use social media in September 2010 as

Hurricane Earl moved up the U.S. east coast, FEMA monitored Twitter and was able to see that tourists on the Outer Banks in North Carolina were evacuating, but many residents were not. That information gave FEMA and state agencies the information they needed to develop search-and-rescue plans for those residents (Modern Business Associates 2011).

Emergency agencies determine what people are saying by tracking hashtags (#). During the 2011 Groundhog Day Blizzard that affected the central and northeastern U.S. and Canada (NOAA National Centers for Environmental Information 2017), the most commonly used hashtag was #snomg. During those storms, FEMA monitored what was happening by using HootSuite, a Twitter-adaptable program that displays all tweets using a given hash tag. During that storm, FEMA could tell Oklahoma was getting hit by ice and Chicago residents thought the storm had missed them--until they started tweeting as the storm got worse (Modern Business Associates 2011).

Twitter also serves as a news service, not only a social network. This is particularly true when tweeters are victims of the disaster. As eyewitnesses of the harm from the disaster, they become first-line reporters of what is happening. A study of the 2009 flooding of the Red River in North Dakota by Starbird et al. (2010) showed that 10 percent of tweets were new information. However, much of the valuable information resulted from copying or adapting information from others (derivative information) and combining information (synthesis). The researchers found that fully 80 percent of the information was generated by people living in the location of the disaster, with the remainder being generated by the local and national media (Starbird et al. 2010). The majority of information that was re-tweeted was news because it did not exist elsewhere or on the Internet.

Another factor that made Twitter unique was that Twitter did not only serve as a means of broadcasting news, but also as a platform for informational interaction. This provided a way for people to navigate through the enormous amounts of information, placing "virtual signposts" which they could follow. People re-tweeted information they felt was important, adding to the amount of information out there, but also signaling to their followers that this was information that needed their attention. Tweeters use re-tweeting, copying or adapting information and combining information, as a way of organizing information and making sense of the many messages (Fisher et al. 2015).

Twitter may also be a valuable source of information for policymaker decision-making, although there is some doubt as to whether policymakers can synthesize the enormous amount of information in time to arrive at a consensus about what the information is really saying. Nevertheless, public officials and policymakers can get feedback from their followers on Twitter.

While the "big players" such as Facebook and Twitter still dominate social media, social media do more to equalize the playing field so that the average person has a greater opportunity to receive and relay information. For example, a farmer in India can check social media for weather reports and also report on his crop yields. The use of social media has changed the way the public is informed about disasters and how to recover from them. While the traditional media continue to play a key role, social media has given citizens a means to inform and protect each other as well as to alter public policy and the official approach to dealing with emergencies. The Haiti earthquake was a watershed moment that changed how social media is used in disasters. While social media was independently evolving in the years leading up to 2010, the use of social media in the Haiti disaster made public officials aware of their potential in disaster response. Since then, social media has played an important part in informing and keeping the public safe at both the local and national levels.

### 3.4.5 CONCLUSIONS

The chapter examined the roles of traditional and social media as they relate to disaster management immediately before, during, and after the event. The analysis of the problems faced by the traditional media in the immediate aftermath of Hurricane Katrina in August-September 2005 were largely due to a lack of reliable communications in the New Orleans area, resulting in the reporting of multiple false narratives which took days to correct. While the inaccurate depictions of murders, rapes, and other atrocities were later recanted, the media appeared to have a role in raising and keeping the public and politicians' attention on the evacuees' situation and the sub-par government response to the disaster. The case study showed that despite the limited informational access and technological challenges, traditional media coverage eventually had an important impact on changes in U.S. disaster management policy-making.

We also described how the advent of social media in the late 2000s and early 2010s played an important role in altering the ways in which disasters are reported and managed. In particular, Twitter has changed the means by which FEMA manages disasters in real time. While it is unclear what role that social media plays in the influence of policy making in the aftermath of a disaster, it appeared to keep a continued awareness of the issues associated with the recovery from Superstorm Sandy long after the traditional media moved on to new stories. Whether this awareness influenced the passage of the Sandy Supplemental Appropriations Bill is difficult to say; this and other aspects of the issue certainly deserve further study.

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