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Intergovernmental Collaboration in Emergency Management: The Case of the September 2009 Georgia Flood

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**Intergovernmental Collaboration in Emergency Management:
The Case of the September 2009 Georgia Flood**

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A Practicum Paper
Submitted in Partial Fulfillment of the Requirements for the

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Certificate of Approval

This is to certify that the Capstone Project of

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Intergovernmental Collaboration in Emergency Management: The Case of the September 2009 Georgia Flood

Executive Summary

The purpose of this study is to explore the various aspects of intergovernmental collaboration in emergency management at the local, state, and federal level. It provides a descriptive analysis of how these mechanisms interact with each other for effective emergency management. Most importantly, this study provides a unique insight on how Georgia prepared for, mitigated against, responded to, and recovered from the September 2009 flood.

There are several important mechanisms for intergovernmental collaboration; among them are the national incident management system, the incident command system, and the emergency management assistance compact. During disasters these mechanisms interact with each other to provide for a flexible, adaptable management approach. Local governments that are responsible for responding to disasters receive support from other local, state, and federal agencies depending on the magnitude of the incident. The support they receive is not simply limited to equipment and personnel. They include federal aid ranging from hazard mitigation grants, small business loans, and individual assistance to disaster victims.

Between September 16 and 22, 2009, Georgia experienced an unprecedented amount of rain resulting in over fourteen counties to be declared disaster areas. The United States Geological Survey estimated that the September 2009 was a “500-year level,” which means that the probability of such a thing happening in any given year is less “than 0.2 percent” (McCallum and Gotvald 2010, 1). The flood left 10 people dead, 849 residents impacted, over 32 roads and bridges closed, 20 school districts closed, and financial damages estimated at \$250 million (Brett 2009; Georgia Emergency Management Agency 2009a; Federal Emergency Management

Agency 2009a). A critical analysis of the aftermath of the flood demonstrated extensive disaster experience as a key factor in successfully handling the incident in Georgia. Unlike Hurricane Katrina where lack of understanding of mechanisms for intergovernmental collaboration delayed response efforts, Georgia authorities have had over thirty disaster declarations that allowed for a successful intergovernmental partnership. The study identifies political, communication, and policy failures that contributed to challenging response and recovery efforts during the flood and makes recommendations for improving emergency management operations. The recommendations include increasing awareness and participation in the National Flood Insurance Program, incorporating better communications strategies, and adopting more effective regulatory hazard mitigation policies at the local level.

The paper concludes with recommendations on how to improve disaster mitigation policies at the local level, increase participation in the national flood insurance program, and improve communication strategies in emergency management.

**Intergovernmental Collaboration in Emergency Management:
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Table of Contents

Executive Summary.....i

Acknowledgements.....iv

Introduction.....1

 Subject and Purpose of Study.....2

 Need and Relevancy.....4

Literature Review.....7

 Historical Perspective.....7

 Federal Emergency Management Agency’s Legal Authority.....9

 Georgia Emergency Management’s Legal Authority.....13

 Cobb County’s Legal Authority.....17

 Funding.....18

Methodology.....20

Findings.....21

 Emergency Management Assistance Compact.....21

 National Incident Management System.....24

The Case of the September 2009 Georgia Flood.....28

Recommendations.....35

Conclusions.....37

References.....39

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Intergovernmental Collaboration in Emergency Management: The Case of the September 2009 Georgia Flood

Introduction

September is the National Preparedness Month, a national campaign aimed at encouraging residents to better prepare themselves and their families for future disasters. September is also the month of the worst flooding Georgia residents have experienced in decades. The flood was created by a series of heavy rains for six days causing almost all activities to come to a screeching halt. The National Geological Survey recorded rain as much as 30.82 feet in Austell and about 12 feet in Douglas County (McCallum and Gotvald 2010). It is because of disasters such as the September 2009 flood that the federal government, in collaboration with state and local governments, has increased efforts to be better prepared for them. September 21, 2009 was not the first flood to devastate Georgia, although it was the most severe. Just two years earlier, a major storm passed through Atlanta during the National Collegiate Athletic Association tournaments finals. As luck would have it, the storm occurred at a time when a three point shot, sending the game into overtime kept, thousands of residents and visitors indoors long enough for it to die down.

During disasters, especially floods, which are the focus of this study, residents need a government that is capable of dealing with them in an effective and efficient manner. Hurricane Katrina demonstrated the complexity and challenges of responding to disasters and the 2009 Georgia flood proved the significance of having experienced emergency managers, adequate preparation, and continuous mitigations efforts.

If the answer to why government exists has not been justified, disasters should be ample reasons. This is why the building of emergency management capacities at the local, state, and

federal level is essential in effectively responding to disasters. However, the roles and responsibilities of government agencies alone are not enough. It must also include the essential participation of the private sector, nonprofit organizations, and individuals.

Subject and Purpose of the Study

The recent increase in the frequency of disasters in the United States has demonstrated the need for more federal, state and local government collaboration in preparing for, responding to, and restoring communities after such calamities. How successfully agencies deal with disasters depends on their abilities to adequately and effectively collaborate during the different phases of emergency management. In the past decade, the United States has seen its share of disasters, most notably, the September 11 terrorist attacks, Hurricanes Katrina, and the Gulf oil spill.

There are two types of disasters: natural and man-made. Natural disasters are those such as floods, hurricanes, and earthquakes. On the other hand, examples of man-made disasters are terrorist attacks, wildfires, and hazardous material incidents. Emergency management is the recognized academic and professional discipline that “deals with risk and risk avoidance” of these types of disasters” (Haddow and Bullock 2003, 1). Since the early 1800s, this discipline has become a very important function of government and has been tested throughout the Cold War and up to the creation of the Federal Emergency Management Agency in 1979. Emergency management is classified under four important phases: “Phase I, preparedness, is the state of readiness to respond to an emergency based on planning, training, and exercises. Phase II, mitigation, is a sustained action to reduce or eliminate risk to people and property. Phase III, response, comprises immediate actions to saves lives, protect property, and meet basic human needs. Phase IV, recovery, involves decisions and actions related to replacing lost residential

and business properties, rebuilding the economic base, and repairing and rebuilding infrastructures” (Col 2007, 115).

When disasters strike, actors at all levels of government must be adequately trained and equipped with resources to collaborate across county, city, and state boundaries. Collaboration is “a process through which multiple organizations interact to achieve common objectives [in] the form of vertical and/or horizontal integration. Vertical integration occurs within the bureaucratic structure of a single entity or between different levels of government. Horizontal integration occurs among distinct entities” (McEntire and Dawson 2007, 61). According to Jeanne-Marie Col, “a government acts in an intergraded manner when it coordinates planning and strategy of hazard assessment, resource mobilization, and operations with other entities, both laterally and vertically” (2007, 114). In this regard, collaborative emergency management exemplifies a direct contact between administrators and citizens, bridges the gap between theory and practice, and helps explain the politics and administration dichotomy in the public sector.

Hurricane Katrina demonstrated a massive failure of intergovernmental collaboration at the local, state and federal level. “An estimated 1,330 people died as a result of the storm; more than 300,000 home were completely destroyed or made inhabitable; and property damage was estimated at \$96 billion” (White House 2006). In 2009, Georgia faced its own challenges during the historic flood resulting in an estimated \$500 million in damages (Brumback 2005). Emergency management is a shared responsibility and partnership among, federal, state, local agencies and citizens. The September 2009 flood tested the readiness of the state’s response system and made emergency management a priority agenda. Georgia’s state of readiness stems from solid disaster experience and proven success in past incidents, including thirty disaster declarations.

Local governments have critical responsibilities during emergency situations by acting as first responders and providing recovery and mitigation assistance. Oftentimes, federal assistance is too slow to arrive, leaving local responders with limited resources during the first hours after disasters. All emergency situations are handled at the local level of government with very little assistance from the state. As disasters continue to intensify, access to resources is made available through the Stafford Act which clarifies the support function of the federal government (Robert T. Stafford Act 1974). The federal government does not take over disaster operations at the local and state levels, regardless of how big they are. They simply provide support and coordinate efforts to respond and mitigate damages. This is way local agencies must have adequate response plans approved by the state. However, “because emergencies occur infrequently, emergency plans in most jurisdictions are rarely, if ever, activated” (Henstra 2010, 236).

Need and Relevancy

According to Woodrow Wilson, “The very fact that, therefore, that the eminently practical science of administration is finding its way into college courses in this country would prove that this country needs to know more about administration, were such proof of the fact required to make out a case” (1887, 197). Similarly, the very fact that there has been an increase in natural and manmade disasters, and the fact that emergency management as a professional and academic field is receiving more attention in classrooms, serve as proof that this country needs to know more about it.

With over eighty-thousand forms of governments in the United States, communities vary in number of ways. Therefore the nature of emergency management operations will also vary from one jurisdiction to the next due to funding, population size, and leadership. These factors

present serious challenges during multi-jurisdictional disasters. More importantly, since disasters are not bound by borders and jurisdictions, intergovernmental collaboration is a topic worthy of more study. According to Cigler, “there is a considerable variation in the hazards and vulnerabilities that communities face, and this demands locally designed emergency management programs” (1988, 11).

This project relates to the professional and academic literature of public administration on many levels. First, it bridges the gap between theory and practice by providing an assessment of emergency management from both practitioners and theorists. Second, clearly understanding the various roles helps promote better communication among agencies, the private sector, and nongovernmental actors as the nature of their relationship will determine the degree of cooperation. As described by McGuire and Silva (2010), “collaboration across government boundaries is imperative, both before and after disasters. This field is embracing, out of necessity, a collaborative approach to service planning and delivery” (279). Third, the study of intergovernmental collaboration raises the profile of emergency management by strengthening accountability and identifying areas of improvement as they relate to the core principles of public administration. I would hope to contribute to the academic literature by advancing studies that suggest “a pattern of inconsistent and often weak performance by local governments across all disaster stages” (Wolensky and Wolensky 1990, 708). Emergency management has been the focus of extensive study since September 11, 2001, and continuously so after Hurricane Katrina and the 2010 Gulf oil spill. I share Henstra’s conviction that the evaluation of emergency management programs is an opportunity for justifying more federal funding, and for measuring the effectiveness of such programs in saving and rebuilding communities after disasters (2010, 237). Fourth, this project will contribute to advancing arguments made by Waugh and Streib

that “an effective response is unlikely to happen without collaboration” (2006, 138). Finally, this study provides an insight into the complex mechanisms for intergovernmental collaboration and the contributions made by nongovernmental organizations and the private sector during emergencies.

The purpose of this study is to explore various aspects of intergovernmental collaboration by focusing on the roles of federal, state, and local governments in emergency management. Also, the analysis examines how the emergency management assistance compact, the incident command system, and the national incident management system relate to one another as mechanisms for intergovernmental collaboration. This project provides a perspective on the historic 2009 Georgia flood and how these mechanisms contributed to the management of the flood.

The following research questions are examined by the study:

1. What are the mechanisms for intergovernmental collaboration?
2. How do these mechanisms for collaboration relate to each other during disasters?
3. How did these mechanisms contribute to the success or failures of the handling of the September 2009 Georgia flood?

Literature Review

Historical Perspective

Haddow and Bullock suggest that “the account of Moses parting the Red Sea could be interpreted as the first attempt at flood control” (2003, 1). In many ways, emergency management is a natural part of human evolution since disasters are a natural part of our lives. Although it can be debated how far back emergency management can be traced, it is undeniable that it has evolved into an advanced academic field, a specialized area of practice, and a crucial aspect of government functions.

Following the terrorist attacks on September 11, 2001, Congress passed the Homeland Security Act of 2002, establishing the Department of Homeland Security (DHS) with authority to deal with threats to national security. As part of the DHS, the Federal Emergency Management Agency’s newly revised mission include to assist in “helping to ensure the effectiveness of emergency response providers to terrorist attacks, major disasters and other emergencies, and building a comprehensive national incident management system with federal, state and local government personnel, agencies, and authorities, to respond to such attacks and disasters” (U.S. Homeland Security Act of 2002).

The Federal Emergency Management Agency (FEMA) is the primary agency responsible for helping local governments to prepare for, mitigate, respond to, and recover from all natural and manmade disasters in the United States. “FEMA can trace its beginnings to the Congressional Act of 1803. This act, generally considered the first piece of disaster legislation, provided assistance to a New Hampshire town following an extensive fire” (Federal Emergency Management Agency 2010a). Over time, an increasing number of initiatives were implemented to ensure adequate emergency management. The Galveston Hurricane of 1900 and the San

Francisco Earthquake of 1906 led the way to progressive reforms at the federal level. As the deadliest disaster in United States history, the “Galveston [Hurricane] demonstrates what is, perhaps, the most fundamental lesson of emergency management: the danger of hubris, denial, and complacency” (Rubin 2007, 29). The Galveston Hurricane parallels in many ways Hurricane Katrina in the sense that there were similar failures in leadership and collaboration. These two instances, according to Rubin (2007, 28), increased “the need to develop effective civil defense systems as an opportunity to formalize response to natural disasters, industrial accidents, and intentionally harmful acts.”

Prior to the 1950, the federal government had little involvement in emergency management. During the Cold War era, however, its involvement became more apparent with legislations such as the Federal Disaster Act, the Civil Defense Act, and the establishment of the Federal Civil Defense Administration designed to provide assistance during disasters. The 1964 Alaska Earthquake, Hurricanes Betsy of 1965, Camille of 1979, Agnes of 1972, and the Three Mile Island radiological release in 1979 increased the demands for comprehensive disaster management principles and guidelines (Rubin 2007, 29-32). On March 31, 1979, President Jimmy Carter signed Executive Order 12127 that established the Federal Emergency Management Agency (Federal Register 1979). The newly created FEMA was composed of several federal agencies including the Federal Insurance Administration, the National Fire Prevention and Control Administration, and the Federal Disaster Assistance Activities from the Housing and Urban Development agency (McLoughlin 1985). Hurricane Katrina was not the first grand failure in FEMA’s history. The 1989 mismanagement of hurricanes Hugo, Loma Prieta, and Andrew in 1992 portrayed massive failures of collaboration at the federal level. Waugh (1994, 254) suggests that:

Although FEMA correctly did not presume to have jurisdiction over the disaster response and waited for the South Carolina governor's formal request for assistance, the agency did not act as proactively to anticipate that request as it might have. Rather than prompting state officials to ask for appropriate assistance, FEMA officials watched them struggle with inadequate communications and logistics systems. When assistance was requested, FEMA's response was too little too late.

Federal Emergency Management Agency's Legal Authority

The Federal Emergency Management Agency derives its authority from the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974. The Act established guidelines for providing various types of assistance to state and local governments through collaboration for carrying out their responsibilities during and after disasters. According to FEMA, its mission includes:

1. Revising and broadening the scope of existing disaster relief programs;
2. Encouraging the development of comprehensive disaster preparedness and assistance plans, programs, capabilities, and organizations by state and local governments;
3. Achieving greater coordination and responsiveness of disaster preparation and relief programs;
4. Encouraging hazard mitigation measures to reduce losses from disasters, including the development of land use and construction regulations; and
5. Providing federal assistance programs for both private and business losses sustained in disasters (Robert T. Stafford Act 1974).

Most types of federal assistance during disasters require a Presidential Disaster Declaration which sets in motion several mechanisms for collaboration including funding. The federal government defines an emergency as "any occasion or instances for which, in the

determination of the President, Federal Assistance is needed to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen, or avert the threat of a catastrophe in any part of the United States” (Robert T. Stafford Act of 1974, sec 102).

As such, the extent of damages at the state and local level, are significant for receiving timely resources during disasters. The degree of federal involvement depends almost entirely on the scope and severity of the disaster. On September 24, 2009, three days after the epic Georgia flood, only 17 Georgia counties received Presidential Disaster Declaration, while the rest hung in the balance (Georgia Emergency Management Agency 2009f). Eventually, as the assessment of damages demonstrated worsening conditions on the ground, more and more counties qualified for and received federal assistance. Rockdale County was not issued a Presidential Declaration until September 29, eight days after the storm, and Gwinnett County was issued a Declaration on September 30, 2009. The inconsistencies in the number of days it took for some Georgia counties to receive federal declaration is no doubt one challenge in the disaster declaration process. Disaster victims on the ground are less concerned about the bureaucratic process, but more about being evacuated, finding shelters, and receiving medical assistance. The types of federal assistance provided to state and local governments include individual, public and hazard mitigation assistance. In some cases, small business loans are provided to businesses whose loss of income resulted from the devastating disasters after the Presidential Disaster Declaration was issued.

Presidential Disaster Declaration requires the exhaustion of states and local government resources. The request for federal assistance must be made by the state’s governor as required by the Stafford Act. The Department of Homeland Security’s guidelines dictate that “under the

Catastrophic Incident Annex of the National Response Plan, the secretary of the U.S. Department of Homeland Security may unilaterally declare a disaster and immediately positioning federal response assets” (Nicholson 2007, 239). Although this approach is more geared towards man-made disasters, and causes turf wars between agencies, Nicholson posits that “it is the most rapid method available to the federal government for responding to disaster (2007, 239). In some cases, states may receive federal assistance such as fire management assistance grants without a Presidential Disaster Declaration. In addition to grants, “Federal departments and agencies may provide immediate lifesaving assistance to States under their own statutory authorities without a formal Presidential Declaration” (U.S. Department of Homeland Security 2008a, 42).

Based on the suggestions made by Waugh (1994, 256) that “the resources and expertise needed to develop, implement, operate, and maintain an effective emergency management system demand intergovernmental cooperation,” the Stafford Act allows the President to establish an Interagency Task Force to coordinate the implementation of predisaster pre-mitigation programs at all levels of governments. This task force includes joint efforts from federal, state, and local agencies, and nonprofit actors such as the American Red Cross (Robert T. Stafford Act of 1974, sec 204). The Presidential Declaration process is at times the source of local frustration when resources are badly needed. In an article published in the *Atlanta Journal-Constitution*, Cobb County Commission Chairman Sam Olens expresses his frustration with the Presidential Disaster Declaration process thusly: “It’s fair to say that we’re very frustrated. The storm started Sunday, with the real wrath Monday, and we frankly were thinking the presidential order would be signed Tuesday night. Yesterday we were told that Cobb County had sufficient damage to merit a declaration – but the bureaucratic process seems to take too much time, while people are hurting” (Galloway 2009).

Waugh and Streib (2006) explore the structures of the American emergency management system, and provide challenges to collaboration arising from the creation of the Department of Homeland Security. In *Collaboration and Leadership for Effective Emergency Management*, they posit that “New leadership strategies are recommended that derive power from effective strategies and the transformational power of compelling vision, rather than from hierarchy, rank, or standard operating procedures” (Waugh and Streib 2006, 131). If applied to the aftermaths of Hurricane Katrina, one can see that, “Hurricane Katrina revealed a national emergency system in disarray, one that was incapable of responding effectively to the immediate needs of communities along the Gulf Coast and unprepared to coordinate the massive relief effort required to support recovery” (131).

Rather than a command and control system, emergency management should be geared towards a collaborative approach. Illustrated by a convergence approach involving volunteers, faith-based groups, and the private sector, the Interagency Task Forces coordinates the delivery of public goods and services, shelters, and food supplies. According to Andrew Ewoh, “when Hurricane Katrina ripped through the United States Gulf Coast on August 29, 2005, nongovernmental actors such as private businesses and nonprofit organizations were the first responders in providing relief and recovery services to the stranded residents when emergency plans at all levels of government came up short” (2010, 2).

After September 11, 2001, demands for stronger collaborative mechanisms among agencies culminated in mandates requiring states to comply with National Incident Management System (NIMS) and The National Response Framework (NRF). NIMS addresses technical issues relating to information management, communication, and poor incident management by allowing for more creativity and flexibility (McEntire and Dawson 2010). NIMS is designed to

meet the increasing demands for flexibility in implementing operation plans from emergency managers. According to Waugh and Streib, “emergency managers have to innovate, adapt, and improvise because plans, regardless of how well done, seldom fit circumstance” (2006, 132). Both NIMS and the NRF raise many questions surrounding their effectiveness in meeting the practical and real needs of first responders. On the one hand, Waugh argues that NIMS has “acted to centralize authority and reduce the participation of nongovernmental and private organizations in disaster planning, training, operations, and other functions” (2009, 158). On the other hand, Buzz Weiss, a retired Georgia Emergency Management Agency Public Affairs Officer, offers a completely different perspective. For Weiss (2010b), NIMS is necessary to ensure that efforts are properly coordinated, not duplicated, and for an organized management structure from all actors. The difference in views expressed by Waugh and Weiss exemplifies a widely expressed dichotomy between theory and practice in public administration.

Georgia Emergency Management Agency’s Legal Authority

Georgia is still recovering from the September 2009 epic flood that resulted in 46 counties to be declared Presidential Disaster areas, 40,000 people evacuated, and 12,000 homes and businesses destroyed (Georgia Emergency Management Agency 2010a, 27). Although Georgia experienced severe disasters in the past including the 1994 flooding, and 1999 Hurricane Floyd; the September 2009 flood is described as “a once in 500 years flood” by the 2010 U.S. Geological Survey (McCallum and Gotvald 2010, 1). Since 1981, Georgia has taken a series of steps to strengthen its emergency operation plans through training, preparation, and early mitigation activities.

The Georgia Emergency Management Act of 1981 was the first piece of legislation that created a unified approach to disaster management in the State of Georgia. It focused on identifying resources, and emphasizing collaboration and partnerships between the private sector, nonprofit organizations, local, state, and federal governments. The Georgia Emergency Management Agency builds on templates provided by the Federal Emergency Management Agency to design operational plans incorporating lessons learned from previous disasters for effective integration of resources. States are mandated to remain in compliance with the National Incident Management System, the National Response Plan as requirements for receiving federal assistance. The Georgia Emergency Operations Plan is classified under four components. First, the basic plan describes the goals, roles, doctrines, and guidelines for coordinating and mobilizing resources to support local emergency management prevention, preparedness, mitigation, response, and recovery activities.

Second, the emergency support functions group agencies according to functional capability to provide resources and assist responders during disasters. Georgia has fifteen emergency support functions as follows:

1. Transportation,
2. Communications,
3. Public Works and Engineering,
4. Emergency Management,
5. Firefighting,
6. Mass care, Housing, and Human Services,
7. Resource Support,
8. Public Health and Medical Services,
9. Search and Rescue,
10. Hazardous Materials,
11. Agriculture and Natural Resources,
12. Energy,
13. Public Safety and Security Services,
14. Long Term Recovery and Mitigation, and
15. External Affairs (Georgia Emergency Management Agency 2010a).

Third, the support annexes describe supporting roles and responsibilities of other agencies including FEMA in providing assistance in debris removal, and coordinating volunteers when disasters are too severe to be handled by local responders. Fourth, the incident annexes, are designed to promote a more specific approach to disasters since not all emergencies are alike. These annexes create a specialized and more flexible application of response measures in floods, hurricanes, and other types of disasters. In this context annexes are simply defined as the essential support functions common to all incidents.

Georgia's plan is a multi-tier support system illustrated by Figure 1, with initial responses starting at the lowest level of government. In situations similar to the 2009 flood, where local governments were overwhelmed by the severity of the incident, the state steps in to provide additional resources and if resources are exhausted, can request assistance from the federal government and neighboring states through proper channels. The Georgia Emergency Operation Plan incorporates participation from private sector, nongovernmental, and volunteer organizations for a unified response during all types of disasters. For example, the regional evacuation plan is a perfect example of interagency collaboration at the local level. It was created in 2008 in collaboration with the Atlanta Regional Commission, Fulton County's Emergency Management Agency, and the ten counties from the metropolitan region to develop effective evacuation strategies during emergency situations. These efforts originating from the former Atlanta Mayor Shirley Franklin are recognized as a perfect example of intergovernmental collaboration in emergency management and endorsed as taking "collaboration to the next level with evacuation plan" (Hescock 2009). Georgia recognizes that, because the severity of disasters vary across jurisdictions, "both the government and NPOs [nonprofit organizations] are required

to partner more than ever before in developing and implementing effective relief, recovery and rebuilding program for helping disaster victims” (Ewoh 2010, 8).

Figure 1: Elements of Emergency Operations

Source: Stowers 2009, Georgia Emergency Management Agency convention training.



Because the participation of private companies, nongovernmental, and faith-based are equally essential, “at the professional level, the critical task leading up to, during, and following a disaster involve coordinating multiorganizational, intergovernmental, and intersectoral response and recovery operations” (Waugh and Streib 2006, 134). Collaboration can be accomplished by coordinating priorities, sharing resources, entering into multi-agency agreements, and reaching across state lines for assistance. The Georgia Emergency Operations Plan sets guidelines for seeking assistance across state lines in cases where emergencies become too overwhelming.

The Emergency Management Association Compact (EMAC) “is a mutual aid agreement and partnership that allows states to assist one another in responding to natural and man-made disasters” (Kapucu, Augustin, and Garayev 2009, 297). Because disasters are not bound by jurisdictions, EMAC allows states to have quick access to unique human resources and expertise possessed by member states, offers state-to-state assistance during governor-declared state of

emergency, and finally, a responsive and straightforward system for states to send personnel and equipment to help disaster relief efforts in other states (Emergency Management Assistance Compact 2010a).

Cobb County's Legal Authority

“At the local level, emergency managers might have broader responsibilities, depending upon their relationship to emergency response agencies, but the role has generally been defined as coordinative rather than directive” (Waugh 2009, 159). This is perhaps why emergency management is best handled at the local level, and where effective collaboration originates from. Georgia has 161 local emergency management agencies in 159 counties, and 2 cities: Forest Park and Smyrna. The Cobb County Emergency Operations Plan shares similar characteristics with the Georgia Emergency Operation Plan including all fifteen emergency support functions. It sets guidelines derived from the National Response Framework, the National Incident Management System, private, and nonprofit organizations to address the philosophical approach to emergency management which dictates that emergency effective response starts at the local level.

Cobb relies heavily on the use of public awareness campaigns and early warning systems, proven successful as tools for better preparation and mitigation. Among the tools used are the National Oceanic Atmosphere Administration Weather Radios, outdoor warning sirens, Web alerts, and media outlets. Recently, Cobb launched CodeRED, a new high speed emergency alert system requiring residents and businesses to register in order to receive notifications. The strength of the Cobb and the Georgia Emergency Operation Plans is based on over twenty years of disaster experience including thirty disaster declarations. As illustrated by Buzz Weiss during

an interview for this study, he states that “Georgia is one of the states with the most disaster experience in the United States after Florida, Louisiana, and California” (2010b).

Funding

Funding is crucial in any government function, especially for emergency management. Due to budget shortfalls, education, public safety, and transportation (as priorities) at the local level, effective mitigation and preparation programs lack adequate funding. Since The Multihazard Mitigation Council (2005, 5) indicates that “every dollar spent on mitigation saves society an average of \$4,” federal, state, and local governments must place more focus on finding creative ways to fund mitigation and preparation programs in order to reduce the cost of recovery after disasters.

When the 2003 flood and Hurricane Ivan of 2004 devastated the Drew Valley neighborhood, DeKalb County implemented plans to mitigate future damages through home acquisitions and stormwater management. In 2005, the county received \$5 million in grants with \$3.5 million in disaster mitigation grants originating from the federal government to fund buyout programs and the development of a new stormwater management facility on newly acquired properties (Slay 2010). The primary focus of the stormwater facility was to reduce the damages resulting from upstream and downstream flood impacts. These efforts proved to be great cost saving mitigation efforts, and justified the need for federal funding for effective emergency management. Kathie Oehler, Chairwoman of the Drew Valley Civic Association’s Zoning and Land Use Committee declared that “It’s a miracle it was built during a two-year drought, and it’s a miracle it got completed right before we had the biggest flood this area has ever experienced, in September 2009” (Slay 2010, 8).

The federal government uses many types of aids as collaboration and support mechanisms. They include individual, public assistance, and grants. Several types of grants are made available by FEMA to emergency personnel, individuals, private-nonprofit organizations, and government agencies. Among them are Flood Mitigation Assistance Grants, Hazard Mitigation Grants, Individual and Households Grants, and the National Flood Insurance Program. In 2009, Georgia received \$28.8 million in Hazard Mitigation Grants plus \$480,000 from the U.S. Department of Housing and Urban Development in disaster recovery enhancement to help reduce and prevent damages from disasters. By the end of the 2009 fiscal year alone, the GEMA, FEMA, and the U.S. Small Business Administration provided \$53.2 million in grants to individuals and families, \$44 million in loans to small businesses, and \$2.2 million in assistance to local and state governments and nonprofit organizations (International City/County Management Association 2010; Federal Emergency Management Agency 2010b).

The Federal Emergency Management Agency (FEMA) strongly urges residents to participate in the National Flood Insurance Program established in 1968 to provide homeowners financial assistance and tools for recovery after the devastating effects of floods. Unfortunately, many residents are unaware or have never experienced the consequences of not having flood insurance, even though they might not reside in flood plains. In September of 2009, the high number of individuals who applied for federal assistance due to lack of flood insurance reflects “the all-too-common misconception that a standard homeowner’s policy covers everything including high water. It doesn’t” (Weiss 2010a, 12). Since then, Georgia and insurance companies have engaged in massive outreach campaigns to educate citizens, and motivate them to purchase flood insurance. The preparation phase of emergency does not simply include training, but also preparing for the other phases, especially, how to recover. Following the flood,

the National Flood Insurance Program paid an estimated \$118,498,114 in claims averaging \$58,114 per loss to Georgia residents (Federal Emergency Management Agency 2010b). Although some claim that flood insurance does not go far enough and does not replace things of sentimental values, the importance of flood insurance is still being debated a year after the 2009 flood. Regardless of the shortfalls associated with having flood insurance, “if it rains where you live, then you need flood insurance” (Weiss 2010b).

Methodology

This research is based on a qualitative design for an in-depth analysis of intergovernmental collaboration in emergency management. Using the 2009 Georgia flood as a descriptive case study, this project combines multiple sources of data for analysis including, but not limited to, scholarly journals, government reports and publications, books, archival documents, interviews with experts and agency staff, local, state, and federal emergency management programs, training materials, and newspaper articles. The study also draws from studies using existing qualitative research focusing on disaster management to develop support for better intergovernmental collaboration during disasters. Since the September 2009 Georgia flood is unique in many ways compared to other natural disasters, the ability to apply the findings of this study is limited. As such, findings cannot necessarily be generalized to other jurisdictions where disasters of different degree have occurred. However, this case study provides details that are unique to this incident and can serve as a strong source for identifying weaknesses and strengths specific to local communities and the State of Georgia.

Findings

Emergency Management Assistance Compact

The Emergency Management Assistance Compact (EMAC) is a mutual aid compact between states to assist one another during severe disasters. “Mutual aid agreement and partnership between member states exist because—from hurricanes to earthquakes, wildfires to toxic waste spills, and terrorist attacks to biological and chemical incidents—all states share a common enemy: the threat of disaster” (Emergency Management Assistance Compact 2010a). EMAC is an interstate network that creates an environment that promotes and facilitates the sharing of resources during disasters.

It is undeniable that during large scale disasters such as the September 2009 Georgia flood, states not only need assistance from the federal government, but also from their neighbors. This concept of lateral collaboration initiated by former Florida Governor Lawton Chiles began with the creation of the Southern Regional Emergency Management Assistance Compact (SREMAC) in 1993. SREMAC was later expanded to other states wishing to become members, and was approved by Congress in 1996 as Public Law 104-321. Membership in the EMAC network requires each state to pass Emergency Management Assistance Compact legislations addressing “all the issues associated with requesting assistance, reimbursement of services, workers’ compensation, insurance, and liability in advance of a disaster” (Kapucu, Augustin, and Garayev 2010, 301). EMAC plays a crucial role during disaster operations as a mechanism for intergovernmental collaboration, in addition to other means already in existence at the federal, state, and local levels. Today, all the fifty states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands are members of the EMAC and they collaborate for speedy delivery of equipment, and personnel assistance during disasters.

After the 2004 Hurricane Frances devastation in Florida, twenty-six states including Georgia provided support and resources under EMAC. Furthermore, over 300 emergency services personnel from 26 states were provided during Hurricane Charley and 66,000 EMAC personnel during Hurricanes Katrina and Rita (National Emergency Management Association 2004, 1). To illustrate the extent of participation by EMAC in other disaster operations, the National Emergency Management Association indicates that in 2004 alone, “EMAC deployed more than 800 state and local personnel from 38 states...The cost was approximately \$15 million in personnel, equipment, and National Guard expenditures” (Emergency Management Association Compact 2010a).

EMAC does not replace the need for federal assistance during disasters. It simply allows for a quick access to resources in advance, and in conjunction with the Federal Emergency Management Agency. EMAC is administered by the National Emergency Management Association, and is an independent organization operating outside the capacity of the federal government.

The declaration of a State of Emergency sets in motion the deployment of Advanced Teams (A-Team) by EMAC to conduct damage assessments and determine resource needs. During large scale disasters, A-Teams may also be deployed to collaborate with the Federal Emergency Management Agency and, state and local agencies to coordinate efforts on the ground. Meanwhile, member states are notified of the disasters and requests for specific resources are made through various channels including “email, the EMAC broadcast system, the EMAC web site, and other means” (Waugh 2007, 109). States that can afford to provide assistance amidst tight budget constraints usually contact the impacted state for the negotiation of terms of agreements including reimbursements of services. States are required to pay back the

resources negotiated with other states, unless the assisting state chooses to donate them. Most importantly, the impacted state is required to assume certain liabilities, “including the actions of workers from assisting states, and for the compensation of death benefits to injured members” (Emergency Management Assistance Compact 2010b).

Although EMAC is a successful innovation towards effective and efficient emergency management, it has certain limitations. The obvious one is that since providing assistance is voluntary and is not guaranteed, impacted states cannot rely on EMAC during disasters. This is significant, because during disasters, states need to operate on an absolute certainty of resources for better coordination of response and recovery operations.

Another limitation is the fact that since early disaster declarations facilitate the anticipation of resource needs, such assessments are not always reliable for states wishing to provide assistance. In other words, there is a high possibility of an overestimation or underestimation of resources, manpower, or specialized skills needed during disasters. According to Waugh, “The specificity of requests was not always sufficient to avoid confusion. In simple terms, requesting states did not always know what they needed and how to ask for it” (2007, 110). One additional limitation identified by Waugh after Hurricane Katrina and Rita, is the lack of integration of state emergency plans with EMAC (Waugh 2007). As states take more steps to incorporate their emergency plans in conjunction with EMAC, the National Response Framework and the National Incident Management System, emergency management will become more adaptable to situations on the ground and will strengthen intergovernmental collaboration.

National Incident Management System

Following September 11, 2001, the Homeland Security Presidential Directive-5 (HSPD-5) was issued in February of 2003 to strengthen the ability of the United States to better prepare and respond to domestic incidents. The directive called for the implementation of the National Incident Management System and the National Response Plan as frameworks for disaster management (U.S. Department of Homeland Security 2003). The National Incident Management System is “a comprehensive national approach, applicable to all jurisdictional levels and across functional disciplines, improves the effectiveness of emergency management/response personnel across of full spectrum of potential incidents and hazard scenarios” (U.S. Department of Homeland Security 2008b, 1). The National Incident Management System (NIMS) has six major components as a new approach towards addressing flaws associated with poor information sharing among agencies, communication, and preparation among many others. The six components: preparedness, communication and information management, resource management, command and management, and ongoing management and maintenance interact with each other in a systematic manner to serve as a template for national incident management (U.S. Department of Homeland Security 2008b).

The National Incident Management System (NIMS) lays out roles and responsibilities for effective, economical, and efficient collaboration during disasters. It provides a “systematic approach to guide departments and agencies at all levels of government, nongovernmental organizations, and private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate against the effects of incidents regardless of cause, size, location, or complexity”(U.S. Department of Homeland Security 2008b, 1). It describes concepts and principles for meetings standards for each of the six components with emphasis on flexibility,

standardization, and participation from nongovernmental organizations, and the private sector. NIMS is not a response plan, rather, it is a “set of essential principles for common operating picture and interoperability of communication and information management” (U.S. Department of Homeland Security 2008b, 6). As part of NIMS, the federal government mandates the adoption of the Incident Command System as an organizational structure for:

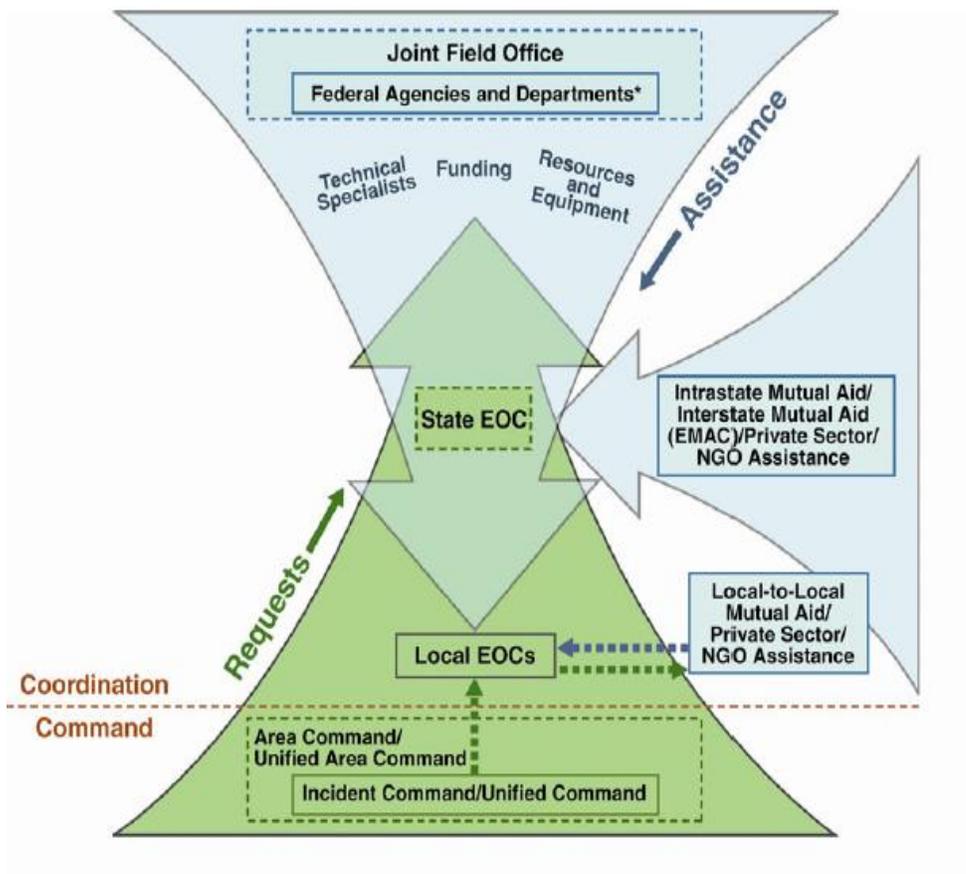
1. Meeting the needs of any kind or size,
2. Allowing personnel from a variety of agencies to meld rapidly into a common management structure,
3. Providing logistical and administrative support to operational staff, and
4. Being cost effective by avoiding duplication efforts (U.S. Department of Homeland Security 2008b).

The Incident Command System (ICS) is composed of five components: command, operation, planning, logistics, and finance/administration, and is adaptable to different kinds of incidents and at various levels of governments. The ICS is usually set up at the local level where a disaster occurs and it promotes collaboration among agencies including fire, public health, law enforcement, emergency services, and public works. It is defined as a “fundamental form of management established in a standardized format, with the purpose of enabling incident managers to identify key concerns identified with the incident-often under urgent conditions” (Federal Emergency Management Agency 2010c). The structure of the ICS identifies an incident commander, a command staff, and support personnel with specific roles and responsibilities to be carried out during small scale disasters. As disasters become more severe and expand in different jurisdictions, the Incident Command System gives way to the Unified Command and Multi-Agency Command systems for multiagency coordination of resources, equipments, and personnel across jurisdictions, governments and nongovernmental organizations

(Waugh 2009). Both Unified Command and Multi-Agency Command operate on the same principles and concepts as the Incident Command System. On the ground, disasters always seem very chaotic as portrayed by images of Hurricane Katrina. However, management of disasters is usually very organized, and management concepts such as the Incident Command System ensure a well organized management structure. Figure 2 provides an illustration of the flow of request and assistance during large scale disasters starting at the local level. It also gives a description of various means for local-to-local assistance, nongovernmental and private sector participation, and interstate mutual aid assistance such as the Emergency Management Assistance Compact.

Figure 2: Flow of request and assistance during large scale incidents

Source: U.S. Department of Homeland Security 2008b, 36.



Criticisms of NIMS and ICS are plentiful. First, Waugh (2009) argues that the creation of a centralized authority by NIMS and ICS takes away from the participation of nongovernmental and private organizations in disaster operations. The command-and-control system created by the implementation of NIMS emphasizes a military approach to non-terrorism related incidents. Second, Tierney (2005) argues that “as agencies based on command-and-control principles assume greater importance in local preparedness efforts, the influence of organizations that focus on hazards other than terrorism and that operate in a broadly inclusive fashion and on the basis of co-ordination, rather than control has waned” (3). Third, NIMS creates a narrow focus on domestic terrorism, which takes resources away from natural disasters and creates turf wars within the Department of Homeland Security. According to McEntire and Dawson (2007), “some observers have argued that NIMS is too focused on terrorism preparedness and response, and that this focus may undermine efforts to mitigate and recover from natural disasters” (64). Although terrorism is a serious threat and a national priority, the unintended lack of focus on non-terroristic disasters resulted in massive response failures during Hurricane Katrina, Rita, and Wilma (Waugh 2006). Finally, since disasters vary in size, complexity, location, and cause, the use of a one size fits all approach to disaster management is questioned.

An effective and efficient emergency preparation and response depends on additional mechanisms other than the adoption of a framework. The adoption of NIMS and ICS in state and local governments reflects “the highly questionable assumption that once a consistent management structures is adopted, preparedness and response effectiveness will automatically improve” (Tierney 2005, 5). An adoption of a federal framework needs to be accompanied with adequate training, funding, shared goals among agencies, and understanding of external factors

which contribute to uncertainty during disaster. Moreover, critics claim that “ICS is flawed; expansion of ICS usage may exacerbate the difficulties in the organization of emergency response” (Buck, Trainor and Aguirre 2006, 3).

Due to the complexity of emergency management and emergency operation plans, the National Incident Management System must utilize an incrementalism approach to satisfy the need of emergency responders. The different views around the effectiveness of such plans exemplify the conflict which exists between theorists and practitioners, and between politicians and administrators. Waugh (2009) argues that the centralized approach created by the Incident Management System is slow and cumbersome and not adaptive to external factors (2009). However, proponents argue in response that “NIMS is a new approach to disasters that will require ongoing review and modification” (McEntire and Dawson 2007, 64).

The Case of the September 2009 Georgia Flood

Between September 16 and 22, 2009, Northern and Central Georgia experienced unprecedented rainfall resulting in a historic flooding. With 30.82 feet of rain recorded in the City of Austell and 33.83 feet in Douglas County, experts estimated that the odds of a flood of this magnitude occurring again are less than 0.2 percent in a given year (McCallum and Gotvald 2010). Following the incident, twenty-three Georgia counties including Bartow, Carroll, Catoosa, Chattooga, Cherokee, Cobb, Coweta, DeKalb, Douglas, Fulton, Gwinnett, Heard, Newton, Paulding, Rockdale, Stephens, and Walker were issued a Presidential Disaster Declaration, following the Governor’s State of Emergency Declarations. The Presidential Disaster Declaration qualified fourteen counties for federal assistance through grants and public assistance programs (Georgia Emergency Management Agency 2009h). In all, the flood left 10

people dead, 849 residences impacted, countless businesses destroyed, over 32 roads and bridges closed due to damages, 20 school districts closed, and financial damages estimated at \$250 million by State Insurance Commission John Oxendine (Brett 2009; Georgia Emergency Management Agency 2009a; 2009h; Federal Emergency Management Agency 2009a). The September flood received national attention because of its magnitude, even from President Barack Obama, who was attending the United Nations climate change discussions, and a visit from Vice President Joe Biden, and Secretary of Homeland Security Janet Napolitano.

The argument made by Neuby and Hiers (2009) that during disasters, nonprofit organizations arrive on the scene not long after first responders is specifically true in the case of the September 2009 Georgia flood. This suggestion also supports the National Incident Management System's guidelines suggesting that "to achieve national preparedness and coordinated response, emergency management and incident response activities should be coordinated at all levels of governments and should include NGOs and the private sector" (U.S. Department of Homeland Security 2008b, 11).

An initial review of the all Georgia Emergency Management Agency's situation reports reveals an impressive intergovernmental collaboration and a public-nonprofit partnership. Local agencies from Cherokee, Douglas, Paulding, Walker, Cobb, Carroll, and Chattooga counties operated 206 county shelters housing over 39,000 survivors (Georgia Emergency Management Agency 2009a; Georgia Emergency Management Agency 2010b, 1). According to the Georgia Emergency Management Agency, collaboration during early disaster operations included "an assortment of representatives from the following agencies: Georgia Emergency Management Agency, Georgia Department of Community Affairs, Governor's Office of Consumer Affairs, the Georgia Department of Human Services, Georgia Department of Community Health,

Department of Labor, Insurance Commissioners Officer, the Small Business Administration, the United States Department of Agriculture, the American Red Cross, the Salvation Army, and Georgia Baptist Child Care” (Georgia Emergency Management Agency 2009g). The active role in the response and recovery efforts from the Georgia Housing Taskforce and the Georgia Volunteer Organizations Active in Disaster supports Ewoh’s (2010, 2) contention that “societal dependency on the nonprofit sector for performing public services allows for the government to promote general welfare without stretching its administrative mechanism, thus achieving overall efficiency, however defined.” In all, over 40 volunteer agencies and over 10,000 individual volunteers participated in the response and recovery efforts representing one of the largest operations in the state’s history (Georgia Emergency Management Agency 2010b, 2).

The Georgia Emergency Management Agency activated its State Operation Center at a level 2 at 6 AM on September 21, 2009. The activation was followed up by the setting up of a Unified Command System due to the severity of the flood, which was significant in anticipating flood damages, mobilizing resources in preparation for flood damages, and integrating communications among agencies. The Unified Command answers the question to how mechanisms for collaborations relate to each other during the flood. In this case, the frameworks detailed by the National Incident Management System suggest that “organizations with different jurisdictional, geographical, or functional responsibilities...[do] coordinate, plan, and interact effectively in support of a common objective” (U.S. Department of Homeland Security 2008b, 9). These efforts included placing road closure signs, placing boat and swift water rescue personnel, assembling water tanker strike teams, and moving sandbags in areas anticipating heavy damages. Georgia local and state governments took proactive stance by declaring early

state of emergencies in some areas and activating emergency response teams to identify special requirements in animal shelters, dams, and schools.

The emergency support functions that combine the capabilities of agencies according to their functions were also activated, although some support functions saw little actions during the first days. For example, transportation, classified as emergency support function #1, facilitated the rescue and evacuation of flood victims to hospitals, shelters, and medical facilities in various counties. Meanwhile, mass care, housing and human services classified as emergency support function #6, coordinated emergency shelter operations, and supported feeding missions for displaced residents. The Federal Emergency Management Agency and the Georgia Emergency Management Agency conducted joint aerial damage assessments in accordance with principles established by the Stafford Act and the National Response Framework to facilitate the request for federal assistance. In the Americus District located in Taylor County, for example, firefighters assisted local authorities with road damage assessments and temporary closures, and partnered with the Department of Natural Resources to obtain additional boats to assist in water rescues in Douglas County and other areas (Georgia Emergency Management Agency 2009b)

Initial request for interstate assistance was broadcasted on September 24, 2009 to the Emergency Management Assistance Compact region IV states including Florida, Alabama, and North Carolina (Georgia Emergency Management Agency 2009c). The request specified needs for four teams of public assistance coordinators to assist local government in the recovery efforts and help flood victims with their request for federal aid. Both North Carolina and Alabama responded to the call for help and offered two teams of public assistance coordinators each to remain under assignments for up to 30 days (Georgia Emergency Management Agency 2009h, Alabama Emergency Management Agency 2009). According Kathy Huggins, the public

affairs/constituent services coordinator and Angi Watley, the public assistance coordinator at the Georgia Emergency Management Agency, the total cost of personnel expenditure received by Georgia from Alabama and North Carolina is estimated at \$93,000 (Watley 2010; Huggins 2010).

The successful management of the September 2009 flood is attributed to a wide range of mitigation efforts in Georgia. As a result of the March 2009 storm that occurred a few months prior to the epic September flood, Georgia received \$10 million in hazard mitigation grants to fund acquisition and buyout projects in Tift County, Decatur County, City of Austell, and City of Savannah (Georgia Emergency Management Agency 2010b). These mitigation activities included optional payments to encourage residents to relocate to safer zones, updating and enforcing building codes and ordinances, and developing proactive land-use regulations. As an illustration, in 1994, after Hurricane Ivan caused flood damage in the Drew Valley neighborhood, FEMA grants made possible buyout of 15 homes to be turned into a stormwater management facility to minimize upstream flood impacts (Slay 2010, 8). These proactive mitigation activities were widely credited for saving lives and for cutting long term recovery cost during the September 2009 flood.

Damage assessments after the September 2009 flood resulted in a \$16.5 million federal assistance request federal assistance. According to the Federal Emergency Management, federal disaster aid to Georgia reached over \$100 million two months following the historic September flood (Federal Emergency Management Agency 2009b). The aids include approximately \$53.2 million in grants under FEMA programs, \$44 million in low-interest disaster loans, from the Small Business Administration, and about \$2.2 million in assistance to local and state governments and nonprofit organizations. Additionally, FEMA approved \$28.8 million under

the Hazard Mitigation Grant Program to prevent future damage of property, save lives and money (Federal Emergency Management Agency 2009b). Individuals and families qualified for a number of federal programs as a result of the Presidential Disaster Declarations, including unemployment payments for up to 26 weeks, grants to replace residential losses not compensated by insurance, and rental payments for temporary housing (Federal Emergency Management Agency 2009b).

A year after the September 2009 flood, Georgia released a report indicating that more than \$265 million in disaster aid from FEMA and GEMA have been provided, including \$58 million to disaster victims, \$71 million for home and business loans from the U.S. Small Business Administration, \$103 million for the rebuilding of roads, bridges, and infrastructures, and \$33 million for hazard mitigation activities in various counties (Georgia Emergency Management Agency 2010b, 1). Although frustrations with the slow bureaucratic process were echoed in DeKalb and Cobb County, the overall speed of response activities were widely recognized as a success. In an article published in the *Atlanta Journal-Constitution*, Georgia Senator Saxby Chambliss “praised the Obama Administration for a response that was both magnificent and quick” (Galloway 2009).

Post evaluation of the September 2009 epic flood reveals critical failures in land use and zoning regulations in flood plain areas. A study published in the *Atlanta Journal-Constitution* investigating the failures to control storm water runoff revealed that “years of failure to adequately control runoff from development has left streams more vulnerable to flash floods than in the past” (Vogell and Newkirk 2010). The study found failures to protect homeowners in flood plains and few attempts were made to develop ordinances restricting developers from building in areas vulnerable to floods. Vogell and Newkirk (2010) remark that “in counties such

as Cobb, Fulton and Gwinnett, houses continued to rise in areas at higher risk of flooding in recent years. While some of the homes sit atop dirt fill elevating them above the flood plain, experts say that approach often just worsens flooding elsewhere.” Perhaps these were more prevalent in the City of Austell that sits in the middle of five creeks where the flood made the most damage. Further analysis concluded that “regional shortcoming in stormwater planning aggravated the problem. Those flaws included splintered, jurisdiction-by-jurisdiction planning that ignored downstream impact and federal flood maps that didn't keep up with that development” (Newkirk, Perry, and Vogell 2010). The federal government in part, needs to develop comprehensive policies to regulate the construction in flood plains since regulations for flood insurance do not prevent them. Therefore, there seems to be a major disconnect with federal policies and local realities.

Furthermore, politics contributed, in large part to preparation and mitigation failures identified after the flood. At the local level, public officials are reluctant to push for ordinances that would regulate developers due to their political consequences. But these actions are exactly what are needed to prevent further damages, and to make the builders more accountable to the statewide mitigation efforts. Although not all the blame should be attributed to the builders, effective and efficient mitigation must include active participation from the business industry, homebuyers, and governments. With more regulations in place at the local level, long-term damages will be significantly reduced and lives will be saved. Another example of how politics contributed to the inadequate preparation and mitigation is the passage of the 2010 Federal Disaster Relief Funds which have been stalled four times before. The funds included \$5.1 billion of FEMA dollars frozen by Congress until the passage of the supplement appropriation bill in July of 2010. A year after the flood, the Federal Emergency Management Agency finally

approved \$11.3 million from the Federal Disaster Relief Fund for the buyout of homes in Cherokee, Douglas and Cobb counties (Davis 2010).

The small number of participants in the National Flood Insurance Program is another critical failure of local governments identified. In the aftermath of the flood, property damages were estimated at \$500 million (Vogell and Newkirk 2010), and only one percent of impacted residents were active flood insurance policyholders (Federal Emergency Management Agency 2009a). Flood insurance is crucial in mitigation and recovery efforts because it alleviates certain financial burdens associated with mortgages, and reduces long term cost of repairs. There was 32 percent increase between June and September of 2009 in flood insurance policies in Georgia following the flood, making the total number of insured residents only 2 percent (Cash 2010). The high number of new policies reflects lack of awareness on the importance of having flood insurance, which is mandatory in high risk zones. It also reflects an area of improvement that local and state governments should focus on during future preparation and mitigation efforts to be incorporated in emergency management operations.

Recommendations

Following the September 2009 flood that left 10 people dead, it is undeniable that emergency management is not solely the responsibility of governments. Individuals must take an active role in preventing the loss of life during and after disasters. For example, one death during the flood was associated with a motorist's attempt to drive through flood areas before officials were able to close them. Agencies must include in emergency operation plans much more effective approaches to engage individuals to take active roles in preparation, planning, and staying informed. With advances in technology, new approaches can include incorporating social

media such as Facebook and Twitter as part of their communication tools. More outreach activities stressing the importance of using National Oceanic Atmosphere Administration Weather Radios for timely weather updates will also contribute to long term recovery efforts and reduce the loss of life.

More investments and better implementation of available technologies including advanced computing, geographic information system, remote sensing, expert system and Internet, and wireless technology are needed for effective emergency management. For example, loss estimation technologies can serve as important mechanisms for predicting potential impacts of floods which can serve as a basis for zoning and land-use regulations.

Weiss (2010b) indicated that a language barrier was a major obstacle responders faced after the flood. He described the challenges responders faced when attempting to communicate with residents not fluent in English. It is therefore important to incorporate multilingual communication strategies in emergency operation plans to promote a more efficient communication between responders and non English speakers in order to save lives.

Also, local and state governments must increase public awareness on the benefits of purchasing flood insurance and participation in the National Flood Insurance Program. Although the federal government provides various aids to disaster victims, having flood insurance will help to reduce the problems of waiting for federal funds to arrive, and will also make recovery after a flood much easier. Obviously the fact that only one percent of victims of the September 2009 flood had active flood insurance policies poses a great problem to local and state government officials. Participating in the national program provides several alternatives for victims after floods, and residents need to be more aware of what they are and encouraged to participate in them, either through incentives or by tax deductions.

On the policy level, performance measurements of local and state emergency management programs on an ongoing basis are necessary to ensure they meet benchmarks, and identify more areas in need of improvements. The identification of improvement areas will allow for more efficient zoning, land use, and flood plain management policies to mitigate and reduce damages during disasters. The Multihazard Mitigation Council recommends that the federal government “supports ongoing evaluation of mitigation by developing a structure process for assessing the performance of buildings and infrastructure after all types of natural disaster and by measuring the benefits that accrue from process mitigation activities” (2005, 7).

State and local governments should push forwards new initiatives that mandate an ongoing study of flood plains and identify properties are risk. This initiate should also include mandates to update flood plain maps on an annual basis in order to increase knowledge and promote commitment to mitigation activities.

Local and state agencies are also encouraged to put forth regulative ordinances that would prevent property developers from putting profit over safety. For example, such efforts can include mechanisms would motivate developers to leave some parts of land undeveloped, and use new technologies to better control runoff water downstream.

Conclusion

Emergency management is perhaps one of the most complex functions of governments and requires participation from a broad spectrum of stakeholders including private, nongovernmental organizations, and individuals. Success requires adequate preparation, training, funding, and effective intergovernmental collaboration at all levels of government. Since local governments are in better positions to understand and meet the needs of individuals,

emergency response must be regionalize at the lowest level of government. As disasters intensify, state and federal agencies should provide support such as personnel, equipments, and funding to sustain local governments efforts according to the principles from the National Incident Management System, the Incident Command System, the Emergency Management Assistance Compact and the National Response Framework.

On the one hand, the success in the Georgia September 2009 flood is widely attributed to the state's extensive disaster experience. Since 1990, Georgia has had over thirty disaster declarations, allowing for a ready state only surpassed by Florida, California, and Louisiana (Georgia Emergency Management Agency 2010c). On the other hand, challenges were associated with poor land-use planning by local governments, lack of participation in the National Flood Insurance Program to help in the recovery efforts, and finally, the political constraints that slowed the allocation of federal funds for disaster mitigations efforts.

Although this paper focused on a limited number of intergovernmental collaboration mechanisms, the researcher recognizes that there are many more in existence. However, this study of intergovernmental collaboration in emergency management contributes to the building of a better integration network, and helps to bring to public awareness the role of public administrators in the process. Lessons learned from this case study can serve as a starting point for more effective and efficient emergency operation plans by drawing from the public administration principles of effectiveness, efficiency, equity, and economy.

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