ABSTRACT

HILDEBRAND, SEAN. Coerced Confusion: Local Emergency Policy Implementation After September 11. (Under the direction of Dr. Thomas Birkland).

This dissertation examines whether local managers choose to implement federal policies within their own departments and asks whether a significant disparity exists between the expectations of the federal government and the actions of local officials concerning how local departments implement key emergency management and homeland security policies since the September 11 attacks. The study builds on research that has claimed there is confusion among local governments about potential changes to the role local emergency management services should play before, during, and after natural, accidental, or terror related incidents.

I propose several hypotheses relating to specific actions taken by emergency management professionals at the local level that would be compliant with the federal policy demands, along with the perception local managers have about traditional emergency management and new homeland security functions in the contemporary system of disaster management. Variables that I derived from local managers' perception of how much control they have over the functions of emergency management under these new policies consider specific temporal stages, and the appropriate actions taken within those stages of disaster preparation and relief, that are traditionally thought to be primarily the local department's responsibility.

To test these hypotheses, my study adapts theories from literature relating to coercive federalism and Comprehensive Emergency Management (CEM) practices and applies them

to theories stemming from policy implementation literature. I develop a model to test these hypotheses based on the “Communications Model of Intergovernmental Policy Implementation” proposed by Goggin and his colleagues (1990).

The results demonstrate the divide between federal demands and local actions since the September 11 attacks. Expected results related to coercion and policy clarity are not verified. Managers who have experience in the field appear to nominally comply by using their knowledge in implementing federal policies, all the while continuing to maintain their use of traditional CEM functions. Furthermore, the local officials do not perceive a greater role for federal actors throughout the hazard cycle or homeland security process. However, managers do claim to expect the federal government to continue their role in providing assistance after an event, as had been their traditional part in the process prior to the September 11 attacks.

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Coerced Confusion: Local Emergency Policy
Implementation After September 11

by
Sean Hildebrand

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APPROVED BY:

Richard Clerkin

Raymond Burby

James Swiss

Thomas Birkland
Chair of Advisory Committee

DEDICATION

I dedicate this to my friends, family, and myself. Only we know what I went through and how much I invested in the project.

BIOGRAPHY

Sean Hildebrand is originally from Mount Airy, Maryland and received his Bachelor's Degree in Political Science and Master's Degree in Public Administration from the University of Delaware. Sean has a strong interest in the study of emergency management and homeland security policy formation and implementation, as well as public financial management, particularly at the state and local level.

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CHAPTER 1: INTRODUCTION

Background and Purpose of the Study

This dissertation is about changes in the implementation of disaster management techniques at the local level in the wake of changes in federal emergency management policy since the September 11, 2001 terrorist attacks. Following the attacks, the rapid development and implementation of federal homeland security policies altered emergency management operations at all levels of government (Waugh 2007; Tierney 2005; Scavo et al. 2008). As a result, a significant disparity may exist between the expectations of the federal government and the actions of local officials concerning how new policies should be implemented. Specifically, there may be confusion about the role of local emergency management services concerning operational management before, during, and after natural, accidental, or terror related incidents.

Col (2007) and Kweit and Kweit (2006) argue that government organizations must find a way to effectively collaborate and meet the needs of relevant jurisdictions throughout the emergency management process while also addressing the demands of homeland security. Historically, federal efforts to address potential flaws or needs in emergency management at the local level have been limited. New federal policy demands intend to standardize and centralize emergency management's operational direction at the federal level, and were, at least during the Bush administration, disproportionately focused on homeland security activities instead of traditional activities related to natural or accidental disasters (Waugh 2006; Esinger 2004; McEntire 2004; Haddow 2005; Schneider 2005;

Waugh and Sylves 2002; Birkland 2009). Changes that the federal government made in the name of standardization limited the effectiveness of resources, like those cooperative networks already in place in most locales, and reduced the ability of local governments to respond to natural or accidental disasters (Neal and Webb 2007; Waugh 2004). These differences in organizational priorities have led to conflicts between agencies within the Department of Homeland Security (DHS) and between actors at all levels of government, limiting their ability to develop improved emergency management policy and practice (Lehrer 2004; Waugh 2005). The present study addresses the effect that new federal emergency management policy demands have had on the role of local emergency management professionals.

While local managers attempt to use previously created plans and tools designed to prepare for and respond to local natural or accidental disasters, post-September 11 federal disaster policy requires local governments to spend more money and attention on “preventing” and “protecting” citizens from potential terrorist attacks. For example, the circumstances preceding and immediately following Hurricane Katrina highlighted, throughout all levels of government, the limitations of the new federal policy's homeland security focus, specifically its tendency to centralize coordination efforts at the federal level (Waugh 2007; Neal and Webb 2008).

Significance of the Problem

Emergency management is important because of the disasters that can happen in states and communities (Tierney et al. 2001). My study focuses on local government

emergency management departments and their managers' willingness to conform to federal mandates. Specifically, my study examines how local emergency managers, as key decision makers, perceive the influence of federal mandates on their daily responsibilities in the post-September 11th policy system. Furthermore, my study offers a review of existing theories and practices of emergency management and homeland security policies at the federal, state, and local level. Specifically, this review takes into account the use of what are known as Comprehensive Emergency Management (CEM) strategies designed to address emergencies of any kind, and the impact that the focus on terrorism at the federal level has had on pre-existing intergovernmental systems for disaster mitigation, preparedness, response, and recovery. I will report key themes from those selections of emergency management literature that draws on the disparate fields of political science, sociology, public administration and engineering as they relate to the variety of emergency incidents that a community might face. The focus of my study, however, is to relate these key themes to policy implementation literature in an effort to explain why local jurisdictions choose to implement post-September 11 federal policy demands.

Research Question

After witnessing the effects of Hurricane Katrina and other natural disasters since the September 11 attacks, some local governments continued to resist the federal-centered system, though they are open to federal funding, while other local departments returned to pre-September 11 processes to address disasters through the use of their own resources and planning efforts. In doing so, local governments work against the motivation of federal

policies that seek to create one process for emergency preparedness and response across the nation. Researchers claim that the federal government should find a way to keep local governments from continuing pre-September 11 emergency management methods to effectively promote homeland security principles (Esinger 2006; Lehrer 2004; Wise 2002; Newmann 2002; Donley and Pollard 2002; Schneider 2008; Takeda and Helms 2006; Lester and Krejci 2007; Chertoff and Paulison 2008; Wise and Nader 2002). Based on the previous discussion, my study focuses on one primary question regarding contemporary emergency management:

What local factors and emergency management practices, and what federal policy demands, predict the implementation practices of local emergency management departments?

To address the primary research question, I propose several hypotheses relating to the implementation of federal homeland security and emergency management policies since the September 11 attacks. These encompass specific actions taken by emergency management professionals at the local level that would be compliant with the federal policy demands, along with the perception local managers have about traditional emergency management and new homeland security functions in the contemporary system of disaster management.

Variables that derive from the manager's perception of control over the functions of emergency management under the new policies consider specific temporal stages and actions taken within those stages of disaster preparation and relief that are traditionally thought to be primarily the local department's responsibility within CEM protocol.

To test these hypotheses, my study adapts theories from literature relating to coercive federalism and CEM practices and applies them to theories that stem from the federal government's literature on implementing new policy. Here, I develop a model to test these hypotheses, using the "Communications Model of Intergovernmental Policy Implementation" proposed by Goggin and his colleagues (1990) as a theoretical guide, in an effort to predict the degree to which local actors implement three of the new federal policy requirements specifically at the local level: the National Incident Management System (NIMS), Incident Command System (ICS), and National Response Plan (NRP)¹. This model also serves to predict whether the centralization of the policy process occurs in a way that federal policy creator's desire. This prediction is based on whom local decision makers report as having control over each stage of the emergency management hazard cycle (mitigation, preparedness, response, and recovery), and the homeland security spectrum (preparation, prevention, protection, and recovery), as well as for specific actions taken during each stage of the hazard cycle.

When considering the implementation of policy and perception of control at the local level, I propose that emergency management professionals made policy decisions designed to

¹ Note that only the NRP will be considered in the present study, as the National Response Framework (NRF), which replaced the NRP, was enacted only a few weeks prior to my study's commencement. However, the NRF will serve as a focal point for future research, as discussed in Chapter 5.

meet short and long-term local demands within their realm by implementing parts of a policy at one time while waiting for either greater clarification of policy language, or waiting to receive incentives for implementation (such as grant funding) from the federal level prior to fully embracing the post-September 11 policies. Such actions represent a substantive change away from federal policy demands in a direction that better suits local demand.

Evolution of Federal Emergency Management Policy

The Carter administration established FEMA in 1979 under a reorganization plan. It was to serve as the federal government's lead disaster agency, merging several disaster related entities that sprung up in response to various catastrophic events throughout the twentieth century. Prior to the September 11 attacks, the federal government, acting through FEMA, primarily served a supporting role to local and state officials in during a disaster (Haddow et al. 2008). However, political actors as well as those in need of assistance viewed the government's response to catastrophes in the late 1980s and early 1990s, such as Hurricanes Hugo and Andrew and the Loma Prieta earthquake, as failures (Kweit & Kweit 2006). During these catastrophes, most aspects of emergency management operations within all levels of government, such as preparedness, coordination efforts, and the capabilities and training of many emergency managers failed to meet the demands of the public and of political officials (Quarantelli 2006; Roberts 2004). This negative reaction to FEMA's performance almost led to its dissolution in the early 1990s.

Finding new, more supportive leadership within the Clinton Administration, FEMA overhauled processes for preparing and responding to all varieties of disasters by promoting

local hazard mitigation and preparedness. This move, which occurred at a time that disaster declarations were at a minimum, increased the amount of federal input on local actions in disaster management, as well as the immediate financial burden for all involved through the provision of grants to develop local mitigation systems designed to hopefully limit the costs involved in future disasters deemed likely to occur within a particular jurisdiction. FEMA also established a series of performance measurement systems for the agency as part of a “reinventing government” trend (Birkland and Waterman 2008). Arguably, the changes instituted under President Clinton occurred in an effort to alter the civil defense mindset within FEMA, which proved to be inconsistent with the coordination and resource demands created by natural disasters. Studies show that the changes instituted by then-director James Lee Witt rated as successful in meeting the public’s demand for effective disaster response, starting with the Northridge earthquake and continuing with different natural disaster events during the 1990s (Haddow et al. 2008; Mycoff 2007; Roberts 2006).

The change in political leadership after the 2000 election resulted in a reduced role for FEMA with regard to traditional emergency management policy and reversed several gains made in the areas of mitigation and preparedness implemented by the previous administration (Birkland 2008; Roberts 2006). The federal government’s place in emergency management seemed an afterthought in the early days of the George W. Bush administration, reinforcing the notion that emergency management was a local issue. After the September 11 attacks, however, the federal government again redirected their policy towards civil defense under the banner of “homeland security,” once again emphasizing the importance of federal input in disaster preparation and response.

FEMA's strong, competent image led to its inclusion within DHS, but the organizational strengths that FEMA developed during the 1990s were crippled by its inclusion in the new department. Major functions like preparedness and mitigation were reduced or removed, and what remained was primarily federal support for response, which ultimately contributed to the problems revealed during the Hurricane Katrina catastrophe. But, as Carter (2001) asserts, FEMA under President Clinton minimized the threat of terrorism and its effects, instead focusing almost exclusively on natural and accidental disasters. After the Oklahoma City Bombing in 1995, President Clinton created the Office of Domestic Preparedness (ODP) in the Justice Department. ODP sought to prepare the federal government's resources for all mass casualty incidents that were terror related. At that time, FEMA Director James Lee Witt unsuccessfully attempted to reestablish the agency's role in terrorism preparedness, an area which FEMA distanced itself from during the early years of the Clinton administration (Birkland and Waterman 2008; Haddow et al. 2007). Only with the inception of DHS were these roles once again merged at the federal level, although only in DHS, not FEMA.

In response to the September 11 attacks, the federal government instituted a series of new policies and presidential directives that focused on terrorism in a manner similar to the days of civil defense and the nuclear threat, which downplays the basic themes of comprehensive emergency management in favor of a centralized, federally managed system (Waugh 2006; Esinger 2004; McEntire 2004; Haddow 2005; Schneider 2005; Birkland 2009; Somers and Svara 2009). The rationale for a centralized policy was to create a standardized approach in emergency preparedness and response with all actors using the same plans and

protocols while working together to handle prevailing situations (Lester and Krejci 2007; Posner 2007; Department of Homeland Security 2008; Takeda and Helms 2006). This would, in theory, avoid problems that may arise from agency competition and the lack of clear lines of communication and control during disasters, as was evident on September 11 and previous crisis situations (Wise 2002; Newmann 2002; Donley and Pollard 2002; Posner 2007; Schneider 2008).

Overall, President Bush issued 24 Homeland Security Presidential Directives relating to the direction and implementation of national homeland security policy and the “war on terrorism.” Most of these mandates address a particular concern for places within the nation’s infrastructure that could be potential targets for terrorist attack, like maritime or aviation security. For instance, *Homeland Security Presidential Directive 5 (HSPD-5), Management of Domestic Incidents* (2003) required all federal agencies to use the National Incident Management System (NIMS) to spur the creation of a “consistent nationwide approach for federal, state, and local governments to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents regardless of cause, size, or complexity.” NIMS became the centerpiece of the National Response Plan (NRP), which required FEMA and its now-parent organization, DHS, to assume “primary responsibility” for emergency response. NIMS uses the Incident Command System (ICS) to create a core set of principles, terminology, system of resource management, and a system of reporting for all organizations to use under a centralized command structure during an emergency. Table 1-1 provides a summary of HSPD-5 and 8, as well as NIMS, the ICS, and the NRP.

Table 1-1 Summary of Key Policies and Presidential Directives in Homeland Security

Key Policy or Directive	Summary
HSPD-5	Established to “enhance the ability of the United States to manage domestic incidents by establishing a single, comprehensive national incident management system (NIMS)”. The Department of Homeland Security serves as the principle actor in domestic incident management. The directive also establishes the NRP as the structure for domestic incident management in a consistent fashion (White House 2003).
HSPD-8	Established the “mechanisms for improved delivery of federal preparedness assistance to state and local governments, and outlining actions to strengthen preparedness capabilities of federal, state, and local entities” (White House 2003).
ICS	Established a standardized management system in five functional areas: command, operations, planning, logistics, and financing/administration. This methodology coordinates the efforts of all layers of government and promotes joint decisions on objectives, strategies, plans, priorities, and public communications in disaster management. ICS is a portion of NIMS (Department of Homeland Security 2004).
NIMS	Established a coordinated standardized management plan and unified structure for federal, state, and local actors in disaster response. Key elements include the ICS, a focus on preparedness (via planning and standardization of efforts across jurisdictions and events), communication management, a joint information system (to share key details about an event with stakeholders), and an assessment tool known as the NIMS Integration Center. NIMS is part of the NRP (Department of Homeland Security 2004).
NRP	Established a new centerpiece of legislation defining how the federal government will involve itself in disaster management. As local and state resources exhaust themselves, the federal government assumes “primary responsibility” for disaster management. The purpose is to limit negative consequences that stem from a lack of resources, and communication in affected jurisdictions. NIMS and ICS are parts of the NRP (Department of Homeland Security 2004; McGuire and Schneck 2010).

The combination of these directives received the full support of the White House in the years since the September 11 attacks, even with the transition of leadership from

President Bush to President Obama, although only the actions taken by the Bush administration are included in my study.

Despite the federal government's claim that it bases its disaster management policy on the CEM-based all-hazards approach, it is clear that terrorism remained DHS's focus (Birkland 2008; Homeland Security Strategy 2007; Waugh 2007; Tierney 2005; Waugh 2006; McEntire 2004; Demchak 2002; Scavo et al. 2008; Hite 2006; Lieberman et al. 2007; Edwards 2007; Birkland 2009; Somers and Svara 2009). Traditionally, CEM all-hazards planning bases local actions on a jurisdiction's risk assessment (Nicholson 2007). The National Response Plan (NRP) cites the use of CEM components in creating a uniform method for disaster preparation and response, as well as a system of command and control over all actors in the process (Department of Homeland Security 2008). The policy language also stresses the importance of the partnerships emphasized in CEM literature.

However, while the NRP emphasizes a "bottom-up" model stressing local control and flexibility, it does so using federal "unifying" definitions of priorities, roles, and responsibilities as spelled out in NIMS, creating a "top-down" (federally controlled) method and means for compliance with federal policy demands (Chertoff and Paulison 2008). Thus, through the DHS's policy language and actions, the federal government ultimately maintains a focus on the war on terrorism and lowers the priority of natural disaster preparation and mitigation (Birkland and Waterman 2008; Homeland Security Council 2007; Edwards 2007; Birkland 2009). Focusing on one particular type of disaster (terrorism) challenges the Department of Homeland Security's claim to uphold the CEM approach, because when one particular threat receives the main level of focus outside of a traditional rational risk

assessment within a community, then CEM protocols do not necessarily apply to it.

Ultimately, several theorists agree that the demands from the federal government did not conform to the traditional CEM, all-hazards method for mitigation, preparedness, response, and recovery that served as the prevailing theory and practice prior to September 11, even though the mandates claim to do so (Waugh 2007; Tierney 2005; Waugh 2006; McEntire 2004; Demchak 2002; Scavo et al. 2008; Hite 2006; Lieberman et al. 2007; Gerber and Robinson 2009).

However, disaster management experts need to recognize that the DHS's claim to support a CEM approach could be an effort to garner support from the general public, who do not have a great understanding about emergency management operations and who might not discern DHS's inconsistency. The public's recognition of a divergence between traditional CEM principles and the new federal policy demands may provide an outlet for local actors to rely on local methods to address hazards in each community, and to perhaps only partially implement federal priorities (if at all) if they assist the local organization's CEM-based mission, goals, and values.

The deemphasizing of local risk assessments created by the federal government's promotion of methods to address terrorism almost exclusively has resulted in a dilemma for local emergency managers. If the perceived threat of terrorism in their jurisdiction is relatively low compared to natural or accidental disasters, should local organizations alter operations to conform to federal policy demands, or should they remain with the strategies that have served them well in past disasters?

Additionally, what influence did the effects from Hurricane Katrina, and the use of the federal policy prescriptions in preparation for and response to the catastrophe, directly or indirectly have on these managers? Did it reaffirm the need for centralization as suggested by the NRP, or has it led more managers away from the federal prescriptions, and towards their own long-standing solutions for all types of disastrous incidents?

Importance of the Study for Public Administration

With the federal government taking a much more significant role in the direction of local emergency management activities, my study will adapt theories about the implementation of federal policy demands in other policy fields to the newly formed emergency management policies discussed here. While studies of policy implementation are not new, developing a model to test whether the actions taken by federal and local actors will promote federal emergency policy implementation is novel.

Since the September 11 attacks, emergency management seems to have taken the opposite route from what Cho and his colleagues (2005) describe regarding increasing levels of devolved authority as a means to promote federal policy implementation in local organizations. Federal policy demands in emergency management since the attacks of September 11 have focused more on meeting national demands, which do not rely on local experience or expertise, and disproportionately favor means to “prevent” terrorism. Local governments report little involvement in developing these new federal requirements, and a limited understanding of why these new requirements are necessary, as well as a lack of clarity concerning the language of these demands (Scavo et al. 2008; Waugh 2007; Birkland

and Waterman 2008; Lindsay 2008; Gerber 2008). Terror-centric disaster policy seems to maintain little institutional support or any strong local advocacy. Nor is there a consensus among local officials about control over emergency management policy falling in the hands of federal actors. A locally supported CEM all-hazards philosophy allows local actors to consider the impact of terrorism based on a rational assessment of risk in their jurisdiction, rather than as the result of a federal mandate to take particular actions that may not be appropriate in a particular jurisdiction. If federal policy were to actually allow for local flexibility, then it could do so in a manner similar to welfare policy as explained by Cho and his colleagues (2005). While the NRP and NIMS claim to allow for local flexibility, the policies do so within federally prescribed boundaries, and not based on local expertise or demand, as is the case in welfare policy. Thus, implementation results may not necessarily follow the same causal path as in Cho and his colleagues' example.

Furthermore, as Posner (2007) claimed, the lack of coordination between levels of government, as well as the lack of support by those in charge of implementing new policies, created obstacles that make it difficult for local actors to accomplish full implementation in accordance with the federal government's policy demands. This is where the current field of emergency management finds itself, even as actors report the implementation of federal policy demands (Scavo et al. 2008). The majority of grant opportunities is naturally coercive, requiring local governments to subscribe to the federally controlled system of incident management as described by the NRP, as well as favor centralization efforts and the terror-centric ideals (Edwards 2007) as a prerequisite for funding. For instance, because of the funding opportunities for new equipment, local governments may tacitly agree to federal

requirements and the necessary alterations to their operations whether they intend to or not. If local governments agree to comply with federal demands, but do not follow through with policy expectations, it would cause significant repercussions on government operations at all levels in preparation for and response to all types of disastrous situations, leading to a conflated, perhaps redundant, system that is slow to respond to demand; exactly what the federal policies desire to avoid. Local governments especially are likely to be confused about their role in the system, and how these new policies designed to “prevent” terrorism fit within the traditional scheme of disaster management.

Since the new federal disaster management policies lack flexibility, and there is a lack of cohesion among the layers of government, actors, and interests involved, my study asserts that something else spurs policy implementation. Scholars argue that conflicts between federal, state, and local levels of government increase when the number of federal mandates increases without associated funding (Gormley 2006). When the federal government lacks funding as an inducement, the federal government tends to create conflict between various layers of government, which leads the federal government to a focus on enforcing policy rather than development, flexibility, and innovation (May et al. 1996). Therefore, my study seeks to determine whether coercion, in the form of federal grant receipts for preparedness functions, spurs the implementation of NIMS, the NRP, and ICS, and also alters the perception of control over actions in the disaster management field. This would verify the premise by May and his colleagues (1996) that the federal government remains more interested in enforcement of its rules in this field through financial supplement, than actually allowing for local flexibility and problem solving in disaster management. After all, what

incentive would encourage local governments to take such funding, other than to purchase specific equipment or materials, if they did not agree with the premise of the federal policy demands that accompanied such grant money? The notion that local governments would use these funds and implement the post-September 11 federal policy priorities suggests that they are relinquishing control over emergency situations, something that contradicts traditional emergency management philosophy unless such actions are necessary to meet local demand during a catastrophic situation.

Summary

If the new federal policies truly do not take advantage of the skills to handle the needs of citizens honed by those at the local level, and thus constrain local officials regarding policy decision-making and the focus of activities, then new federal policy demands are inviting in new problems for those responsible for handling disastrous situations similar to the problems that disaster management professionals have always faced. My study sheds light on why local governments may be hesitant to subscribe to these federal policy demands, underscoring the potential limitations of the new policies.

The next chapter of this dissertation contains a discussion of relevant literature from the implementation, coercion, and emergency management fields, as well as the formation of the quantitative models used within my study. Chapter 3 is a summary of the quantitative methodology used to test the hypotheses related to local emergency managers' perceptions regarding implementation of federal policy demands. Chapter 4 contains the results of the study's hypotheses related to the implementation of policy, as well as the perception of

functional control during each stage of the hazard cycle and homeland security process in general, as well as specific functions within each phase of the hazard cycle. Chapter 5 is a summary of the conclusions drawn from the data as related to literature cited in Chapter 2. In addition, the primary research question is answered, addressing a gap in the knowledge to which the project was addressed. Recommendations for further research are suggested, as well as changes in emergency management and homeland security policy.

CHAPTER 2: THEORETICAL FOUNDATION AND HYPOTHESES

Introduction

This chapter lays the theoretical foundation for this study. The chapter has four main sections. The first section reviews policy implementation theory as the foundation for the hypotheses in this dissertation. This section also considers how coercion relates to the adaptation of the “communications model” of policy implementation (Goggin et al. 1990) leading to an exploration of the potential rifts between local and federal emergency management operations. The second section situates an overview of contemporary emergency management and homeland security practices and theory within my study's adaptation of the communications model and key themes from policy implementation theory. The third section outlines the federal policy inducements, local emergency management department actions, and the capacity of local departments that my study uses as variables in its exploration of coercion. Finally, this chapter concludes with an outline of the hypotheses I will test in this study.

Policy Implementation Theory

Many scholars claim that the focus and strength of research into policy implementation is its ability to examine specific government policies rather than general theoretical insights (Lester and Goggin 1998; deLeon and deLeon 2002; Saetren 2005). This section traces the development of policy implementation theory through its "three generations" of development. Third-generation policy implementation research, which was

first proposed by Goggin and his colleagues (1990) and which serves as the model for my study, updated themes from Wildavsky and Pressman's first-generation (1973) and Mazmanian and Sabatier's second-generation (1983) research by providing a model that sought to explain "why behavior varies across time, across policies, and across units of government and by predicting the type of implementation behavior that is likely to occur in the future" (p. 18).

First-Generation Implementation Research

Pressman and Wildavsky's (1984) widely cited study of policy implementation in Oakland, California in the late 1960s and early 1970s serves as the model for "top-down" (federally motivated and directed) implementation theory, which Goggin and his colleagues (1990) call "first-generation" implementation research. Pressman and Wildavsky concluded that even when policymakers assume the best, the odds are still against program implementation (Pressman and Wildavsky 1984, Alexander 1989). The authors cite the complex local organizational dynamics, as well as lack of political interest for the implementation of the project from leadership in Washington, as reasons for the sluggish progress and ultimate failure of the implementation process. Simply put, implementation is not separate from the policy itself and those who work to support or hinder its progress. Bowen (1982) later expanded upon this, stating the chance of successful implementation is dependent upon a series of "clearance points" when decisions about the future direction of implementation need to be made by those responsible for the program or policy's oversight. These decisions include the specific actors involved and what they will do, the finances for the policy's operation, and associated materials necessary for full implementation of federal

policy demands. The probability of progressing through these points shapes the future path for the policy that the federal government implements. Those involved in pursuing compliance with federal policy demands can spur successful implementation through multiple attempts at clearing and perhaps packaging several “clearance points” into one concerted effort, thereby shortening the process. By eliminating or combining some of the necessary decisions within the process, policymakers can reduce delays by using a centralized, simplified method to execute federal programs (Bowen 1982; Pressman and Wildavsky 1984).

However, factors favoring centralization, or a “top-down” methodology, in the field of emergency management may hinder the ability of local officials to respond to or prepare for situations that require immediate solutions. For instance, a qualitative study of Louisiana emergency managers who worked with FEMA in response to Hurricane Katrina concluded that local officials used protocols and methods required by the federal government only when dealing with the federal government. With local and state peers, local departments reverted to long-standing methods for disaster response and recovery (Neal and Webb 2007). Sobel and Leeson (2006) reaffirmed these findings, citing the slow response to Katrina’s effects as a result of a complex system of bureaucratic checkpoints that, when dismissed or altered to the needs of local demand, became increasingly satisfactory to local actors. Such dismissal of federal guidelines only adds to the complex nature of implementation described by Pressman and Wildavsky, particularly when considering the importance of rapid and flexible problem solving measures, which are necessary both prior to and in response to a disaster of any type.

General critiques of “top-down” models emerging from this methodology focused upon those who frame policy as key actors (be they elected officials, bureaucratic leaders, or private citizens and interest groups), with others (field implementers at the local level) serving as impediments to implementation. Therefore, any initiative from those in the field was absent from the model, causing the researchers to ignore any chance these individuals had to either shirk responsibility or adapt it to local demand. Those who found success using the “top-down” model were dependent upon either a dominant policy or agency to direct the actions surrounding implementation (Sabatier 1986; Lester and Bowman 1989).

Second-Generation Implementation Research

“Second-generation” implementation research, as defined by Goggin and his colleagues (1990), seeks to build upon its predecessors by defining those specific variables present across policy fields that may impact the implementation process. In terms of focus, researchers during this “generation” took two divergent paths. Some focused on the “top-down” or “command and control” orientation, which was an effort to find a way to best describe how to reach a policy’s desired outcome with a focus on the policy’s guidelines and definitions for successfully achieving implementation, along with institutional factors that can impact results. At the same time, others who focused on developing a “bottom-up” orientation suggest that successful policy implementation is based on the input of those in the field doing the work of implementation, rather than the policy’s language itself (deLeon and deLeon 2002). Sabatier (1986) claims that authors developing the “bottom-up” perspective examined local characteristics as the determining factors for implementation, rather than the complicated intergovernmental process and actors involved, which was the focus of the “top-

down” perspective. When studying implementation from the “bottom-up,” authors focused their attention on what happens when local officials have the ability to influence the policy directives’ specific characteristics. If the policy makers obtained their objectives, the authors questioned those directly involved in implementing the policy demands at the local level regarding what factors (political and policy related) spurred them on to achieve the goal they were given and if they made any changes to the policy based upon their experience in the field during the implementation process (Sabatier 1986).

In attempting to create a model to describe the policy implementation process, Mazmanian and Sabatier (1980, 1983) identified three key characteristics that directly impact that process: tractability of the problem, the ability of the statute to structure implementation, and non-statutory variables that affect implementation (Lester and Bowman 1989). Each of these characteristics have a direct impact upon the stages of the implementation process, including the development of agency output, compliance with said output, the impacts (actual and perceived) of the output, and if any revisions of a statute occur. As defined by the three cited characteristics, this model of policy implementation calculates local actors’ understanding of the policy, as well as whether or not they think they need it, to predict the successful implementation of federal statutes. When considered within this model, local actors remain constrained by federal policy standards.

The “bottom-up” perspective also places the cost of implementation and compliance at the forefront when measuring the successful implementation of policy (Lipsky 1980; Hjern and Hull 1983; deLeon and deLeon 2002). Under this framework, the local implementation structure involved a network of actors responsible for policy compliance. Thus, researchers

ultimately defined behavior in relation to the overall policy's desired outcomes through interpersonal interaction with those involved in the policy, whether they align themselves with the interests of the private sector or the general public.

Some critics cite how "bottom-up" studies focused on the decisions that policy implementers made, and not upon how actors dealt with the problems addressed by the policy. Thus, implementation takes a proverbial "back seat" to understanding relationships between individuals within a particular policy sector (Sabatier 1986). There are times when policy does require a great deal of command and control orientation. The "bottom-up" model undermines this idea along with the idea that implementation can take place in an expeditious manner when policymakers deem it necessary (deLeon and deLeon 2002).

What remains crucial in both first and second-generation studies is the support of key stakeholders, with particular emphasis upon the implementing agency (Albert et al. 2003). While these personal and jurisdictional factors are important, they still do not address questions regarding what drives individuals towards support of a particular policy. The models each generation developed have flaws that seem to outweigh their overall benefit when researchers use them as a framework for empirical studies.

Third-Generation Implementation Research

The "third generation" of policy implementation researchers developed their model as an attempt to provide an answer to their predecessors' problems by determining a predictive value for the federal (top-down) and local (bottom-up) factors related to policy implementation (Cline 2000). Examples of "third-generation" policy implementation research follow several studies in various policy fields that used Goggin and his colleagues'

model to explain how and why state and local governments implemented federal policy demands. The creators of the communications model used federal clean water, hazardous waste, and family planning policies as means to test the hypotheses and outlet for implementation research. They predicated their model on the idea of “policy clarity” as the central, driving factor for state and local implementation. Clean water policy, for instance, contained several clearly defined requirements for state and local government compliance. Local governments implemented these policies efficiently. However, when the policy’s language was not as clear as local governments needed it to be, implementation was at best hit or miss. At worst, implementation became stagnant and subject to the turmoil of the political arena (which occurred with family planning policy in the original study by the authors).

Goggin and his colleagues created the “communications model” based on the assumption that organizational management issues, such as the enforcement of political/policy preferences, the structure of the institutions in question, and the technical competence of the actors involved have direct, primary influence on the implementation and perception of policy (Cline 2000; Cho et al. 2005). According to Goggin and his colleagues, the original model “provides a means of understanding the relationships in intergovernmental policy implementation... these implementers are the target of implementation related messages” that come from a variety of sources at the federal and state/local level (Goggin et al. 1990). While the model synthesizes top-down and bottom-up methods of implementation research, it provides room for federal-level policy leadership to “enhance the control over the implementation process that national formulators enjoy” (Goggin et al. 1990; Cline 2000).

Figure 2-1 illustrates the communications model as developed by Goggin and his colleagues (1990).

Figure 2-1 The Communications Model of Intergovernmental Policy Implementation

Source: *Implementation Theory and Practice Toward a Third Generation*, Goggin et al. 1990. Pg. 32

Borrowing from the “top-down” literature, Goggin and his colleagues indicated “better policy design” as a means to enhance control. The authors concluded that implementation can be spurred by local factors like a strong advocacy coalition and the policy actors’ consensus in regards to the importance of, and their role in, the policy’s central message. At the same time, “even the best of policies can go awry if there is resistance at the level of impact” (Goggin et al. 1990). State and local governments do have means to

counteract federal policy demands, should they choose to face consequences for doing so. Beyond strong policy language, several possible actions at the federal level can support implementation, including financial coercion. Support or resistance, as well as financing, highlight the relationship between top down and bottom up theories of policy implementation, thus leading contemporary policy researchers to combine both theories by simultaneously monitoring top-down and bottom-up impacts throughout the implementation process (Cline 2000).

In a recent adaptation, Cho and his colleagues (2005) applied themes from the Communications Model to welfare policy in North Carolina. The authors questioned local officials about how much they perceived to achieve while implementing (and with relation to) new welfare program objectives, citing professional (experience, expertise), institutional (empowerment of control), and contextual (external environment) factors as reasons for variance in results across jurisdictions of varying sizes. According to their results, professional and institutional factors proved to be of the greatest importance in developing a local actors' perception of effective federal policy implementation in this policy field. These factors provide greater flexibility to local actors, something that may supplement the policy's message while continuing to account for the driving force of past experiences of those directly involved when considering successful policy implementation.

Coercive Federalism

Coercive efforts seek to enhance federal control over policy fields by compelling local governments to implement federal standards through both regulatory and statutory requirements, as well as specific mandates, both funded and unfunded (Posner 2007; Cho and

Wright 2004). As Conlan noted, “intergovernmental mandates and preemption offer the national government cheap policy tools for continued policy activism” (Conlan 1991, 44; Cho and Wright 2004). Contemporary coercive mandates from the federal level treat local governments as “regulatory agents.” Policies with coercive features contain detailed standards and rules for implementation, which the local governments administer with little-to-no discretion (May and Burby 1996).

Stoker’s “implementation regime framework” suggests that coercion is a main factor supporting the implementation of federal policy (Stoker 1991; Stone 1989). Stoker argues that coercion is a means to manipulate performance through consequences for non-performance or rewards for cooperation (Stoker 1991). The consequences of non-compliance in contemporary emergency management policy follow Stoker’s definition and seem simple enough: the loss of the grant or support mechanism for any local action taken within the prescribed field.

But, Stoker admitted operational and opportunity costs related to coercion limit the applicability of his theory. Enforcing a penalty would directly inhibit the goals of the policy. Knowing this, local actors could be inclined to wait for a more cooperative policy or relationship to develop rather than fully implement the federal policy prescription. Stoker claims that local autonomy works against the desires of federal policymakers by preventing the cooperation these policies both demand and need to flourish (Stoker 1991; Meyers et al. 1998).

Despite the limitations listed above, the use of coercive mandates permeated the latter half of the 20th and beginning of the 21st century. Republican and Democratic

administrations centralized control at the federal level in several policy areas during this period. Posner (2007) suggested that, during the George W. Bush presidency specifically, “federalism issues were largely relegated to secondary consideration, often trumped by more compelling national issues and values (392).” He cited policies like No Child Left Behind, welfare reform re-authorization, the Help America Vote Act, and several tax policies as examples of coercive centralization efforts. These mandates used a variety of strategies designed to impose new requirements on state and local governments.

Posner (2007) also cites several new mandates designed to address “homeland security” to enhance the command and control abilities of the federal government in the contemporary system of emergency management instituted following the September 11 attacks as coercive in nature (Lester and Krejci 2007). For instance, local governments' implementation of NIMS provisions were tied to the receipt of specific grant funds and use of federal equipment (or “tools”) designed to reduce the potential impact from hazards in a local setting (Edwards 2007). As a result, efforts regarding natural and accidental disasters as well as traditional emergency management functions found themselves conflated with the “new” topical focus on terrorism, which still takes precedence on the national political stage. The new system uses a unified language, national standards and performance measures, and is arguably another attempt to provide political cover to officials potentially held responsible by an angry public should a catastrophe occur and the efforts to prepare for and respond to the incident fail to meet general expectations in ways similar to that which occurred in the past (Kincaid 1990). To facilitate the centralization of control over emergency management policy, while also promoting the federal goal of preventing terrorist attacks, the federal

government encouraged local governments to apply for several new federal grants designed to strengthen homeland security and emergency management systems. Conversely, in a more coercive way, local jurisdictions risked losing funds designated for mitigating and preparing for disasters if they did not comply with the federal government's demand that they implement of NIMS, the NRP and ICS by the end of fiscal year 2005. These at-risk grants covered materials, training, and other costs related to the implementation of the policies, as well as other local emergency management activities.

However, as previously mentioned, the new centralized plans minimize traditional comprehensive emergency management functions and fail to take into account the expertise and pre-existing successful mechanisms that existed before September 11 in local settings with the purpose of limiting the effects from hazards deemed to be of the greatest threat. Problems may exist when considering how a homeland security diverts the focus of emergency management activities away from the CEM all-hazards type philosophy, thus dismissing several years of local advancement in the field (Waugh 2007; Tierney 2005; Waugh 2006; McEntire 2004; Demchak 2002; Scavo et al. 2008; Hite 2006; Lieberman et al. 2007). Posner (2007) adds that policies with a high level of federal cohesion and a low amount of state/local cohesion will result in total federal preemption of control. According to Posner, this is the case with homeland security and other specific counter-terrorism measures, where significant political support existed for the changes in public policy, particularly in the time immediately following the September 11 attacks. However, whether or not the federal government has total preemption of all emergency management is still debatable. The language of the NRP regarding the areas where state and local governments still have

leeway, and what effect non-compliance with terror-specific protocols will have upon other potentially necessary disaster related assistance or direction from the federal government, may be seen as confusing. While the increase of the federal government's involvement in disaster management in general cannot be disputed, the degree of preemption is partial at best, as the lines between homeland security and emergency management functions and responsibilities for specific levels of government remain blurry (Waugh 2007; Birkland and Waterman 2008; Lindsay 2008). Such confusion about the federal government's involvement in and its policy demands for specific actions may spur local officials to report implementation, but not fully address all necessary avenues involved with the new federal policy demands. Also, this raises questions about what kind of incentives would press local actors to comply with the new federal guidelines, particularly in the wake of the Katrina disaster, if it appeared that traditional CEM philosophies would better serve local demands during a disaster. If the NRP truly promoted a CEM all-hazards theme, it would not require all local emergency management operations to subscribe to one means to handle threats to a local community. Rather, it would allow individuals to make decisions regarding the time, money, and effort they spend addressing the specific threats that exist in the community, and what they mean for each stage of the hazards cycle. Placing greater emphasis on one particular threat (such as terrorism), with little consideration of its perceived risk to the community, is deleterious to the limited flexibility these organizations have because of their relatively small budgets and meager personnel numbers.

Baldassare and Hoene (2002) studied local emergency management officials in California. They concluded that local governments expected funding from the federal and

state government for equipment, but not for collaboration or for efforts to revamp established systems for emergency preparation and response. Thus, local actors who feel forced to use a system that dramatically alters their past practice may also feel alienated by the new policy's coercive elements, particularly if these administrators question the legitimacy of the policy or the federal actors' interjection into the field (Hill and Hupe 2003; May et al. 1996). These local actors may look for those particular portions of the policy that fits local needs and use them to claim compliance, even if they are not fully compliant with the federal policy (Hill and Hupe 2003; Lester and Goggin 1998; Hill 2003). Therefore, a policy's coercive nature and its perceived necessity in its entire (or perhaps partial) format for the local jurisdiction can drive the local administrators' decision concerning whether or not they should take part in what the policy has to offer.

Weissert's study (2001) of primary care mandates suggested that a new policy's implementation is not necessarily a direct result of legislative language, but that implementation was determined by the federal government's funding to those proactive state agencies that supported the new policy mandates. In primary care, which shares important similarities to disaster management, the driving factor for implementing new policy was not so much monitoring and oversight as it was financial means; a conclusion gathered from the fact that the policy changes brought out a significant change in the preemptive behavior of the federal government. State organizations maintained a significant degree of autonomy, similar to what Cho and his colleagues (2005) described in welfare policy, but the federal grant funding helped to overcome any reluctance to act in support of federal policy demands

that the organizations may have had. This illustrates the importance of coercion in policy fields where the federal government seeks to alter the direction of local government behavior.

Comprehensive Emergency Management (CEM)

The use of CEM and its all-hazards philosophy has a long history of both theoretical development and practice in the emergency management field (National Governor's Association 1979; Drabek and Hoetmer 1991; McEntire et al. 2002; Haddow 2005; Waugh 2006; Hite 2003). CEM also demands that program management coordinate with activities (mutual aid, drills, etc.) so all elements of disaster management relate to each other and to the efforts of other public, private, and non-profit actors, creating a unified strategy to prepare for and respond to all disaster types (Drabek and Hoetmer 1991; McEntire et al. 2002). Therefore, CEM displays an inherent flexibility that accounts for a community's vulnerability and the actors' ability to handle situations as they arise.

While CEM and the all-hazards method has been called simplistic (Neal 1997), or ignorant of key social, political, and cultural variables that increase vulnerability when it tended to focus upon only those reactive elements within its bounds, CEM continued to serve as the basis for most public policy and developed theories on proper emergency management protocol before the September 11th attacks. Within the reform efforts by the federal government, CEM remains supported in practice (McEntire et al. 2002).

Many politicians and media pundits have tagged a lack of nationwide preparedness for a terrorist attack as a "pre-September 11th" mentality, repeating routinely the claim that an attack could happen to anyone, anywhere, and that we need to be ready (Lustick 2007).

Given the heightened sensitivity, awareness, and demand for “homeland security” left in the wake of the September 11 attacks, the nation needed to change the way it prepared for a potential terrorist threat. A phenomenon that Kingdon (1995) described as an open “policy window” emerged after the terrorist attacks of September 11, 2001. During that time, new policies refocused federal emergency management prescriptions designed to prepare for, respond to, and mitigate events stemming primarily from terrorism but also, to a lesser degree, from natural or accidental elements. (Waugh 2007; Kapucu 2009; Perry and Lindell 2007; Tierney 2005; Waugh 2006; McEntire 2004; Demchak 2002; Scavo et al. 2008; Hite 2006; Lieberman et al. 2007; Birkland 2009).

Local governments must, per the requirements of NIMS, consider “new” tasks designed to address terrorism within the traditional bureaucratic structure of preparing for and responding to disasters and catastrophes. Terrorism, while particularly frightful and historic, is just another variety of hazard for which government organizations seek to reduce negative consequences (Tierney 2006). With federal policy squarely focused on homeland security operations since the September 11 attacks, disaster management experts must ask why local governments play along with the dramatic shift in focus for their organizations, particularly when the need or methods are not clear. While there is an effective, long-established way of preparing for and responding to disasters of all types via CEM, the effects of and initial responses to natural or accidental disasters and terror events are not entirely congruent. Homeland security related tasks involve several traditional CEM methods such as training, communication, and planning, but not all activities related to homeland security are the responsibility of, or related to, emergency management operations.

Traditionally, counter-terrorism policies focus on using law enforcement to thwart terror plots before they occur. One main difference between counter-terrorism activity and disaster management is how disaster management organizations share information leading up to, preventing, or responding to possible terrorist attacks, specifically concerning with whom the federal policymakers expect local emergency management operations to remain in contact (such as the FBI, or military versus FEMA or other state organizations). The consequences of natural/accidental disasters and terrorist incidents are not very different, and a jurisdiction can use similar tactics throughout the emergency management cycle when responding to these incidents (Birkland 2008). For instance, local actors must provide an immediate medical and material response to victims of a tragedy, be it natural, accidental or intentional. These local actors can create plans determining the basic direction of resources and communications with the public about the situation before/during/after any type of disastrous incident (Perry and Lindell 2003; Henstra 2010).

It is impossible for disaster management organizations to predict or detect all terrorist attacks before they occur, just as it is impossible to deter or predict all natural disasters. Preparedness and mitigation efforts are crucial for traditional emergency management as well as homeland security related functions, even though they do not necessarily involve the same strategies. However, federal policy incorrectly defines these functions as identical for any hazard. Additionally, it remains unclear to many local actors as to what actions are necessary to comply with federal policy demands, or how federal policy demands directly impact their ability to work with their peers or with other layers of government during both terror and non-terror related disasters. This confusion can lead to a haphazard, chaotic response, rather

than a clearly run, centralized response that the new policies intend to provide. Such a reaction is not out of the ordinary in the federalist system, nor is it an uncommon phenomenon in studies designed to monitor the success policy implementation in general.

Stages of the Hazard Cycle

CEM practices fall within, though they are not exclusive to, four stages of the hazard cycle: mitigation, preparedness, response, and recovery (National Governor's Association 1979; Haddow et al. 2008; Drabek and Hoetmer 1991; McEntire et al. 2002). Theorists have debated the definitions of each stage, their relative importance, and what role each level of government needs to undertake when implementing related policies (McEntire 2004; Waugh 2006; Comfort 2002; Mileti 1999; Wise and Nader 2003; Schneider 2005; Birkland 2009). While there is some degree of controversy about their definition and importance, these stages are the centerpiece of CEM methods in addressing hazards.

Most emergency management policy to date has been reactive, with greater local focus on the response and recovery stages (McEntire et al. 2002; Donahue and Joyce 2001). Not surprisingly, local government activities and effort seem strongest in the response and recovery phases, providing the clearest definition of control over policy formation and implementation. However, the response by all actors involved (federal, state, and local) to Katrina suggests that several shortcomings exist within the prevailing structure relating to disagreements about the control over policy, even in well-documented aspects of the process (Kweit and Kweit 2006; Neal and Webb 2007; Sobel and Leeson 2006).

Under the new federal policy focus, state and local operations are responsible for making up the differences stemming from the shift in federal activities in emergency

management and for assuming greater control over the CEM stages, particularly with regard to traditional emergency management activities versus homeland security functions. As the federal government focuses the majority of its actions on homeland security (terror-specific) related functions, which may not align with CEM stages and standard practices, local governments may have more reason to resurrect local experiences and methods to handle all types of disasters and address the demands of each stage during the hazard cycle as it relates to threats to their jurisdiction.

For the present study, activities at the local level pertaining to homeland security are defined within four specific stages whose definitions are available in Appendix A: preparation, prevention, protection, and recovery. I adapt the definition of these stages from a study performed by the Institute for the Economy and Future (IEF) at Western Carolina University (2006), which itself adapted metrics from recommendations made by the National Governors Association Center for Best Practices, and from the Department of Homeland Security. The IEF study surveyed state directors of homeland security and emergency management operations (n=34) with regard to levels of control over policies and initiatives since the September 11 attacks. These state officials echoed the claims of other researchers, suggesting that the federal government lacks clarity concerning how to prepare for and address potential terrorist incidents, distribute critical information, and address community resiliency following an attack. These actors considered preparation the most important task in homeland security, but seemed very unclear as to what they should expect from the DHS during the preparatory phase of operations, particularly when working with the directives and funds provided from the federal level for homeland security purposes (IEF 2006).

Variables of Interest in the Adapted Communications Model

The following section discusses the link between Goggin and his colleagues' (1990) model of implementation, comprehensive emergency management, and coercive federalism. Post-September 11 disaster management policy has failed to repeat the level of success in promoting local policy implementation of federal policy demands because, instead of building on local strengths, the federal government has almost exclusively limited its response to the attention given to potential risks and hazards related to the September 11 attacks. Arguably, this occurred for no other reason than political gain, requiring local governments to follow suit with little account for their opinions, accomplishments, or demands in the field of emergency management (Waugh 2006; Posner 2007). In many ways, this is the opposite of what occurred in the last ten years with welfare policy (Cho et al. 2005).

This inconsistency between the layers of government concerning policy expectations creates room for local managers to rely on their own background or expertise in the field, rather than fully implement the new federal mandates if local actors feel that these mandates do not address the needs of their particular jurisdiction. These local managers may also find ways to use certain aspects of the policy without accepting it in its entirety. While arguably still working towards the federal goal of having a nationwide system for disaster management, such actions would significantly slow the policy's full implementation (Neal and Webb 2007; Sobel and Leeson 2006). Even though the centralization effort was designed to limit any delay, my study will examine whether the move towards a centralized system actually promotes compliance by local actors through their actions and perceptions regarding

the federal policy demands. Additionally, to ensure all actors have the same goals and operational missions in mind when handling a disaster, my study considers the federal government's application of potentially coercive measures, such as eliminating available funding with little account or need for local expertise, to encourage local managers to implement their new policy. This portion of the chapter outlines the variables used to test these assertions within an adapted communications model of my own design.

Additionally, if local emergency managers do not think that the federal policy demands from NIMS, ICS, or the NRP favor traditional CEM approaches designed to address all portions of the hazard cycle, or at the very least consider incidents that are most likely to occur in their jurisdiction (rather than placing their focus disproportionately on terrorism), then it is possible that little has changed about local emergency management since the September 11 attacks. It is unknown if the federal government's attempts at centralizing the system of emergency management are fostering a divide within the system through local governments' nominal compliance with federal policy. If local managers see homeland security and emergency management as separate operations, they may feel that their traditional functions are being compromised at the expense of preventing terrorism, something that local operations have little or no need to spend resources on.

In response to increased attention and new policies at the federal level regarding terrorism, emergency management officials at all levels of government needed to be retrained and professionalized, and a greater emphasis on emergency management and homeland security processes needed to take place in all levels of government. The attacks of September 11, 2001 changed federal, state, and local emergency management priorities but not in

precisely the same way or to the same degree in all cases. Several quantitative studies have queried local emergency managers about the federal policies implemented since September 11, the expansion of federal control over the emergency management process, or the inclusion of homeland security activities in local responsibilities (Baldassare and Hoene 2002; Jain 2006; Caurson and MacManus 2006; Institute for the Economy and Future 2006; Reddick 2008; Kapuçu and Van Wart 2006; Dawes et al. 2004; Brown 2005; Kincaid and Cole 2002). These studies showed that local emergency managers understood the importance of preparing for and fighting against terrorism, but expressed a notable difference in how to handle such responsibilities from the methods required by the federal mandates.

Why some jurisdictions have fully implemented the federal policy demands whereas others have not remains unclear, particularly as others continue to stall, even as the eleven-year mark following the September 11 attacks approaches. As reported by Neal and Webb (2007), following Katrina, local managers in Louisiana perceived that they had an opportunity to gain money, manpower, and equipment by cooperating with the federal officials. Thus, they followed through with federal policy demands when necessary, only to revert back to prior operational systems later. This tacit agreement between those in the field and actors at the federal level suggests that any change that local managers believed to have occurred as a result of the centralizing federal policy demands was not as dramatic as the federal government initially suggested. At the very least, any changes (or the lack thereof) in local action could suggest that something would have to induce, or perhaps coerce, local governments' implementation of federal policy, including the federal government assuming operational control during a disaster.

Centralization of Policy Command and Perception of Control

Even if local emergency managers report that they have implemented federal policy demands, as Scavo and his colleagues (2008) have suggested, they may not fully understand the influence these demands have on local governments' control of different stages and tasks in emergency management and homeland security. Understanding that a disparity exists in perceived control over the different aspects of the emergency management and homeland security processes is important to this research. The lack of direction and focus over emergency management responsibilities at the federal level has led local governments to dedicate efforts toward natural or accidental disaster preparation. Part of the present study is to report whether a change in perceived control over actions taken within the field occurred as a result of the policy changes, and whether federal grant funding is a key driving factor behind the perception of control. My study also evaluates several scholars' claims regarding the ultimate benefits or drawbacks of centralizing the control of the emergency management process

Those who support a stronger system housed in DHS cite its ability to forge relationships, communication, and policy direction, which is the ideal scenario that the new policies promote (Wise 2002; Newmann 2002; Donley and Pollard 2002). Opponents claim that, to forge these new relationships, the DHS must be clear in its definitions and the roles for each level of government within the new emergency management process (Wise and Nader 2002).

Lehrer (2004) and Waugh (2005) argued that DHS largely ignores disaster mitigation concepts and is too rigid or secretive to meet the demands or needs of local communities

before or after a disaster occurs. Caurson and Macmanus (2006) suggested that Florida has shown stronger coordination in its relief efforts since the September 11 attacks, primarily because of centralization under the DHS. However, Florida has long been thought of as an innovator of emergency management due to the local government's experience with hurricanes and their progressive policy responses (May et al. 1996; Birkland 2006). My national-scale study exams whether centralization efforts at the federal level are being pursued locally and what the motivating factors are behind local actors cooperating with or deviating from federal priorities. The perceived centralization of control at the federal level throughout the hazard cycle and for homeland security operations suggest that some amount of coercion exists through the selective receipt of grant funding based on whether or not local governments have implemented federal policy.

Several theorists have suggested that mandated coordination between federal and local organizations on a national scale may impede response and recovery efforts if the emergency management organization is poorly structured (Gormley 2006; May et al. 1996; Neal and Webb 2007; Raghu et al. 1996; Waugh and Sylves 2002; Gerber and Robinson 2009). My study proposes jurisdictions that did not pursue “traditional” emergency management functions before the September 11 attacks and Hurricane Katrina’s landfall reported a greater level of perceived federal control and coordination during these operations. I suggest these departments were more receptive to available funding, and as such, they were also receptive to increased control over local operations that accompany compliance with federal directives.

Conversely, my study anticipates that local emergency managers whose jurisdictions were active in the field before the September 11 attacks would see homeland security tasks no differently than traditional emergency management functions when viewed through the CEM lens. By definition, preparation and recovery operations in homeland security have considerable overlap with the preparedness and recovery stages in the hazard cycle. Regardless, the central focus of federal policy demands remains on the “prevention” and “protection” phases in homeland security. These operations have a significant criminal justice component, as well as a need for federal incursion, to gather, assess, and disburse sensitive information (Thacher 2005). This disparity in operations and demands within the stages of homeland security and the hazard cycle could add to the confusion among local emergency managers about the need for inclusion in such policy measures that address terrorism specifically. Such potential confusion contradicts Caurson and Macmanus' (2006) claim by suggesting that local governments which are progressive in the field of disaster management will continue to seek a more active role in emergency management policy control themselves, including functions related to homeland security, as a part of an all-hazards philosophy that conforms to CEM principles, and not as a response to federal policy demands. Local emergency management professionals with experience in CEM strategies and the “tools” of the trade may resent the centralization of control, and policy language requiring them to relinquish control over areas or to rethink methods for local disaster management that proved successful in past instances. Exacerbating this problem is the perception that local governments had little-to-no input on the new federal policy demands.

Not understanding the language of new federal policy demands could work against the federal governments' efforts towards centralization. With the language of the new federal policy, local actors could perceive certain tasks within the federal government's scope of control, while other, perhaps more traditional, functions in emergency management remain under local control. Local emergency management actors may feel pressure from federal policy demands to dedicate additional resources to these activities, particularly if terrorism is not a concern in that jurisdiction. However, coercion is a powerful tool used in this and many other policy fields by the federal actors, and my study suggests that the ability to maintain the receipt of grants locally supersedes other potential inputs into a local department's decision to implement the new federal policy demands.

As a result of the local use of emergency management “tools” along with confusion as to whom among those at the local level are responsible for implementing federal policy, the varying levels of implementation suggest that there will be similar disparities regarding perception of control throughout the emergency management process. Both perception of control and active implementation concern stages of the hazard cycle – mitigation, preparedness, response, and recovery— and the management of homeland security related functions; preparation, prevention, protection, and recovery. These variations may lead to a greater wedge between federal and local actors in emergency management operations in relation to desired federal policy outcomes.

Federal Policy Inducements: Policy Requirements and Clarity Independent Variables

In the original communications model, federal-level inducements and constraints were designed to take into consideration the objectives of mandates, penalties for non-

compliance, and the clarity of the message (Goggin et al. 1990). The following section considers which federal-level inducements relate directly to the field of disaster management. Researchers must look at the factors relating to the specific requirements of the disaster management policies local actors' are expected to implement, like the potentially subjective interpretation based on the clarity of the policy's language or the potential that local organizations might lose funding if they do not comply to the new mandates. For my study, ICS, NIMS, and NRP requirements and the penalties, namely the loss of grant funding, represent the objective measure of federal level inducements and constraints as independent variables. The reported vagueness or clarity of the respective policies, as expressed by those responsible for its implementation, represents the subjective measure of inducements and constraints. If those individuals implementing the policy do not understand the need for or basic point of the policy with respect to local needs, why would they choose to implement it, unless some additional factor forces them to do so? Coercion, or the loss of grant funding, is a point of interest in my study that I use to examine if local emergency managers are complying with requirements from the federal level to protect what little funding they have.

In Goggin and his colleagues' original study, federal policy demands that were clear, consistent, and flexible facilitated implementation. To date, these factors have not been a hallmark of NIMS or the NRP as reported by studies cited in previous sections. Compliance with federal requirements is nevertheless quite high. This could possibly be a result of local actors picking and choosing parts of the policies that provide them additional resources to meet local goals, and implementing those pieces. Whether or not they follow through with fully implementing the federal mandates may be immaterial, as the local actors intentionally

manipulate compliance and do so successfully as long as they receive the specific attributes of the policy that benefit local interests. Local actors may also simply be waiting for something clearer or another shift in policy or leadership to come about from above.

Local Department Practices: CEM “Tools” Independent Variables

State and local inducements focus on the local organization, specifically how the characteristics of the organizations at these levels determine implementation (Goggin et al. 1990). My study considers how the use of training, drills, and collaborative efforts before and after the September 11 attacks function as measures of state and local inducements. These features can promote or dissuade organizations from implementing policies, as well as promote local initiatives and can be attributed to the basic fundamentals of CEM and its all-hazards philosophy, which promotes local control of emergency management based on the perceived risks within the community. The timing aspect is critical to this measure, as those who have been using such methods for an extended period (before the attacks of September 11) are believed to be more likely to perceive and maintain a local level of control over emergency management policy. If “tools” were not used until after the attacks, it is likely that their use was provoked by federal policy constraints requiring inclusion in day-to-day local emergency management operations, and as such, promoting the implementation of federal policy demands.

To better prepare for and respond to incidents of all types, local emergency management operations have several means to enhance efforts, and learn about and use new technology or strategies related to their day-to-day responsibilities. Specifically, participation in training or exercises/drills and entering into mutual aid (collaborative) agreements can

provide local actors with opportunities to develop a greater understanding of policies related to homeland security and emergency management, as well as how to better prepare for those disastrous incidents that their jurisdiction may experience. Each of these functions has the potential to strengthen local operations to reduce the effects of potential disasters during each stage of the hazard cycle.

NIMS, ICS, and the NRP all contain some requirement for using these “tools” within all levels of government. Multi-jurisdictional support and responsibility is crucial for ICS support, as it was designed to avoid any power struggles or command overlap between various actors who prepare for and respond to an incident (Haddow et al. 2008; Cole 2000; Buck et al. 2008). Undergoing training or exercise programs where agencies share responsibilities with each other under a unified ICS command structure can help promote efficient service delivery. NIMS expands ICS philosophies to the national level, which creates a standardized system for planning, response, and recovery. Some training for the new procedures became available from federal sources to promote its model for emergency management protocols. These opportunities for training, mutual aid development, and the NRP promoted exercises to educate those in critical state and local positions about FEMA and DHS’s methods and encourage their implementation. The NRP expanded these exercises when preparing for and responding to an incident (Haddow et al. 2008). These methods may or may not promote CEM strategies existing before the September 11 attacks, and while federal training and education are important, along with outlets for mutual aid, it is questionable whether or not such organizations would take the effort to use these means to

expand their own emergency management operations, or to comply with federal policy demands.

CEM Tool #1: Training

Emergency management literature regularly cites proper training assistance as a means for local actors to gain specific knowledge about how to use equipment in handling a disastrous incident. Several quantitative studies (Brown 2005; Cwiak et al. 2005; Jain 2006; Spiewak 2005) cite a strong demand for proper training among emergency management professionals. Theorists note that training provides for enhanced coordination and preparation between jurisdictions and reduces the need for a centralized command and control structure that may inhibit emergency management operations (Waugh and Sylves 2002; Waugh 2007). Training also provides local actors with the experience they need to handle new technology, equipment, networking systems, and other means to prepare for and respond to disasters (Dawes et al. 2004). Training could promote future efforts to mitigate hazards rather than simply reacting to them (Schneider 2005; Perry and Lindell 2003; Kunreuther 2006; Burby et al. 1999; McGuire and Schneck 2010; Henstra 2010).

CEM Tool #2: Drills/Exercises

Drills and exercises provide similar experiences. Exercises involve actors within an organization, and within any collaborative network established to share responsibility during a time of crisis. Exercises can highlight the need for additional training, and provide experience with any new equipment and technology. These experiences can lead to policy change, and highlight the need for extending the department's resources at the local level. The skills that local actors gain or the lessons they learn during a drill for one type of disaster

could be used for other disaster types and in other practice simulations, consistent with the CEM all-hazard approach (Perry and Lindell 2003).

CEM Tool #3: Collaborative Efforts

May and his colleagues (1996) suggested that cooperative policy designs enhance policy capacity and effectiveness. Collaborative efforts, such as mutual-aid agreements, can provide much needed coordination and equipment in preparation for and response to a disastrous situation. Pooling resources allows for state and local agencies to share the costs of planning for and responding to all types of hazards and for information sharing between jurisdictions to assist future efforts, which can help apply lessons learned from prior events to limit the effects of similar incidents (Peek and Sutton 2003; Waugh 2004; Kapucu 2006; Howitt and Leonard 2006; Krane 2002; Craig 2002; Nicholson 2007; Burby et al. 1999).

Coordinating state and local agencies involves not only clear policy and legal terminology with regards to proper actions, methods, and state and local policy design, but also financial incentives to ensure compliance with the focus on terrorism in emergency management from the federal level (Waugh and Sylves 2002; Goggin et al. 1990). Some researchers maintain that the new, centralized system reduces the effectiveness of those cooperative networks already in place in most locales before September 11 and Katrina, which therefore reduces the ability of state and local governments to respond to natural or accidental disasters (Neal and Webb 2007). Presently, cities and states are spending their funds on new security demands, while the federal government has been slow to provide direction or policy adaptability, which only adds to the confusion and burden of disaster

planning (Esinger 2006). Additionally, local actors could claim a desire to comply, but not have the organizational capacity to, or be selective in how they do so.

Local Capacity Measurement Independent Variables

Based on the characteristics of the jurisdiction, measurements of an organization's capacity must consider the unique limits of the organization that allow or constrain its ability to undertake different initiatives or take purposeful action (Goggin et al. 1990). Factors that determine capacity measurements include the stock of an organization's resources, its ability to change and influence policy, to make intelligent policy decisions, to develop and implement programs and policy, the degree of financial resources at the organization's disposal, or to evaluate current activities and plan for the future (Honadle 1981; Hall 2008). Capacity measurements, as defined by Goggin and his colleagues, are divided into two categories: organizational (referring to an organization's structural, personnel, and financial resources), and ecological (or the political environment in which the government entity operates) (Goggin et al. 1990; Cline 2000). My study measured organizational capacity by monitoring changes to a local organization's total budget since the September 11 attacks, the amount of federal grant funding received, the number of staff, changes to the hierarchical structure (defined by a division of homeland security and emergency management operations), and changes to FTE personnel levels since September 11 (Bowman and Kearney 1988; Hall 2008). Thus, my study considers the use of home rule, or Dillon's rule, strategies for local governance as an ecological measure of local institutional ecological capacity, since the variable considers the local jurisdiction's ability to make substantive policy on its own, or through state filters. In addition, my study includes the type of jurisdiction, its population,

and geographic region as control variables for capacity, since each of these measures influences the jurisdiction's ability to develop policy, raise funds, and focus on different potential disasters.

Degree of Implementation and Perception of Control Dependent Variables

The degree to which local governments followed through with the implementation of the federal policy demands builds on the decisional outcome variable, which measures a general report of compliance with federal policy demands. This is where the study tests the final determination of the effects of coercion and the effects from local implementation practices. Goggin and his colleagues (1990) suggested that it is important to note functional measures for both output and outcomes, so that researchers distinguish between implementation as a result of the process and the process of implementation itself. To measure implementation and an indicator of outputs, my study uses specific characteristics of the emergency management policies and practices in general to determine whether local actors recognize the federal role within the process, as prescribed by the policy language for NIMS and the NRP.

My study also uses the perception of local actors regarding their place within the current system of disaster management to measure expected outcomes as a result of implementation. Based solely on the language of the federal policy demands, federal actors would have "primary responsibility" over disasters, if they reached a vague threshold of size and scope. As previously noted, prior to the September 11 attacks, local governments exhibited substantial control over the hazard cycle stages, even when seeking federal or state

assistance. Change to this notion would be a result of the actors ceding control over phases of the emergency management and homeland security process.

Considering implementation as a function of “context” highlights not only the pluralistic nature of policy adoption but also variability in perception of control. My study contends that the perceptions about the degree of control over emergency management policy local emergency managers (as implementers) report would be based on key characteristics of the local organization. Additionally, the study identifies several key concepts of emergency management, such as administrative decisions and the structure of the organizations, as well as “causal paths” that lead to implementation of various policies and perception of control over critical operations.

Model and Hypotheses

In my study I test a set of models to understand the factors that explain local implementation and the perception of control exerted by federal government on local governments as reported by local emergency management officials. In the models, the dependent variable is a measure of implementation and perception of control, explained below. The models take this form:

IMPLEMENTATION= LOCAL PRACTICES+FEDERAL INDUCEMENTS+LOCAL CAPACITY

PERCEPTION= LOCAL PRACTICES+FEDERAL INDUCEMENTS+LOCAL CAPACITY

The models used in this study are adapted from the Communications Model created by Goggin and his colleagues (1990) (Figure 2-1), creating the following diagram:

Figure 2-2 The Adapted Model of Intergovernmental Policy Implementation

The following three hypotheses test local emergency managers' attitudes regarding federal policy requirements, and what actions taken by local departments spurred or hindered the implementation of federal policy demands.

Hypothesis #1a: The higher the reported level of use of standard emergency preparedness practices ("tools"), the lower the reported level of federal policy implementation.

Hypothesis #1b: The higher the reported level of use of standard emergency preparedness practices ("tools"), the lower the level of perceived federal control.

Hypothesis #2a: A greater number of reported federal grants received by the local department will result in a greater level of reported federal policy implementation.

Hypothesis #2b: A greater number of reported federal grants received by the local department will result in a greater level of perceived federal control.

Hypothesis #3a: A greater reported level of federal policy clarity will result in a greater reported level of federal policy implementation.

Hypothesis #3b: A greater reported level of federal policy clarity will result in a greater level of perceived federal control.

My study, through the hypotheses listed above, tests whether or not the policy mandates that altered the structure of emergency management operations were implemented at the local level primarily because of the availability or threatened loss of pre-existing grant funding (a form of coercion). The issue was whether local officials accepted the idea that the risk of terrorism was increasing nationwide and cooperated with federal policy demands, or did not accept the new risk calculation and stayed with traditional plans and operations despite the potential loss of federal funds (Edwards 2007).

The perception of federal control and implementation of federal policy demands are expected to vary based on local capacity measurements, with the different political characteristics of the local governments or organizational traits, such as the structure of the department or the background of those in charge, yielding an observable amount of variation. The number of mandates from the federal level, along with their arrangements for financing (and thus the level of coercion), which Goggin calls “content-of-the-decision” variables, can also lead to significantly different results, particularly when new regulations are unwanted by

local interests. Additionally, “form-of-the-decision” variables including the flexibility of procedures and goals provided by the federal policy demands influence the perceived message gleaned from, and implementation of, federal policy.

Survey Information

To test the hypotheses and the variable's ability to adapt to the communications model, a national web-based survey of local emergency professionals was conducted in May and June 2008. In all, 2,422 local (county, municipality, special district, and tribal nation) emergency management professionals received an invitation to participate in the study; 540 responded, giving the survey a response rate of 22.3%. The respondents represented 48 states (none from Hawaii and Vermont), with jurisdictions ranging in population from 130 people to 1.84 million people. The survey featured questions designed to gage the perceptions of control and responsibility that local officials have over emergency management practices. Also, demographic information was collected about the respondent and the department's jurisdiction, as well as about the use of specific strategies used in the field, in public sector management, and for federal policy demands. Assigning predictive value to these variables provide the fields of emergency management and public administration a greater understanding of reasons explaining a local governments' decision to implement new federally defined and controlled strategies, or to re-emphasize traditional emergency management philosophies under local control.

The survey included questions about how these policy changes may have diverted attention from likely risks and traditional emergency management responsibilities and

practices, instead of considering terrorism as a threat based on a risk assessment (a measurement of a disaster's likelihood of occurrence in that jurisdiction).

To test the hypotheses, my study uses ordinal logistic regression methods to determine how respondents to the survey comply with federal policy demands, and to determine any disconnect between those in the field, and those who create new policies within the federal government.

Summary

As is evident within the first two chapters, several factors can impact a local organization's decision to implement federal mandates to one degree or another, as well as how they perceive themselves within the system of governance as illustrated by these policies. My study is a test of the theories regarding the impact from coercion, local department experiences, and local department capacity upon the current system of emergency management, and what that ultimately means for the outcomes desired by federal polices passed since the September 11 attacks. The following chapter will discuss the methodology of the study and the rationale of the geographical location and sample of the population. Chapter 3 will also include the construct of the instrumentation, a discussion of data analysis, statistical methodology, and validity.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

Introduction

This chapter describes the methods used in chapter 4 to test my hypotheses regarding the implementation of federal emergency management and homeland security policies at the local level. Along with the statistical tools used during each phase of the testing process, I explain how the survey of local emergency management officials examines hypotheses stemming from my adaptation of the communications model of policy implementation (Goggin et al. 1990).

Method

In April and May of 2008, I surveyed local emergency management officials in counties, municipalities, special districts, and tribal nations of all sizes from all fifty states. Contact information for the sample pool came from public sources on the Internet, such as local (municipality and county) government web pages and state emergency management agency contact sheets. This was an effort to include all available local emergency management departments as part of the sample.

Web-based surveys, such as the one used in this study, are becoming an increasingly acceptable and regularly used means for data collection in social science research (Kaplowitz et al. 2004; Couper 2000). Key benefits of their use include their accessibility for the respondent, who progresses through a series of questions on a web page at their own pace, and for the researcher, who receives the data conveniently packaged and close to, if not

completely, ready for analysis. My survey seeks responses that provide an understanding of these managers' perceptions of state and local policy implementation as it relates to theories of coercive federalism and public policy implementation. I selected this approach because of its user friendliness and cost-effectiveness as a means to gather information. Simplicity is the most important factor promoting response to web surveys, and this survey is relatively short and easy to follow, adding to the likelihood that a greater response rate will be received in comparison to other means for survey research. The survey uses several of Dillman's (2007) "needed elements for achieving a high response rate" in any type of survey, including respondent-friendliness, multiple contacts with respondents using various methods, and personalization. Respondents have the opportunity to participate at their own leisure, without potential biasing factors of live or telephone surveys.

However, web surveys are not immune from bias, such as a potential selection bias related to the respondent's familiarity with the method, or the possibility that a certain portion of the demographics' access to and knowledge of computers may be limited, thus skewing the results in favor of those potential respondents with computer access (Schonlau et al. 2006). While some researchers question the validity of web survey response based on the means that web researchers use to gain answers (for instance, drop-down boxes versus other structures for answering questions), a uniform use of radio buttons and Likert scales or dichotomous variables limits these problems (Couper et al. 2001). In addition, the use of multiple questions-per-screen and radio buttons for responses also serves to increase the likelihood of survey completion (Couper et al. 2001; Couper et al. 2004; Dillman 2007).

Eight emergency managers pre-tested the survey instrument to help determine the survey's clarity and completeness in addressing contemporary issues in local emergency management as well as addressing any issues with the online format. Conducting pre-testing in this fashion may help to overcome any inherent biases possibly jeopardizing the study's validity. Some of those individuals selected for this purpose were out of local convenience in western North Carolina, while others came from the national pool, and were excluded from the final study population. The jurisdictions represented by these individuals in the pre-test phase varied in population size and type. The pre-test respondents and I worked through the survey together either in person or over the telephone, and they suggested changes to the instrument. The pre-tests occurred in three waves, with the survey evolving throughout the process until reaching the final draft as used in the study, which is included as Appendix C.

While simplicity is an important feature of web surveys, studies of this method report similar, but slightly lower response rates compared to traditional designs. The size of the sample, along with multiple planned contacts of those in the pool increases the likelihood of response for this survey design (Kaplowitz et al. 2004; Dillman 2007). The study began with an e-mail pre-notice of the survey to those in the pool in late March 2008. Some of those involved took the opportunity to ask questions or at the very least anticipate their participation. This also allowed me to remove any dead hyperlinks or invalid email addresses from the pool, fill out forms that registered my identity as a valid correspondence, and not as e-mail spam, and gave me the opportunity to search for additional or new contact information for those jurisdictions. Those who did not initially reply to the first invitation for response,

which included a unique web link to the survey for each participant, received three follow-up email “reminders” of the survey’s existence and another solicitation for participation.

Ultimately, the survey produced 540 responses out of the pool of 2,420 local officials; a 22.3% response rate in a six week time frame. Responses came from every state except Hawaii and Vermont, which were states that had limited representation within the pool of potential participants (although one pre-test participant was from Hawaii).

Compared with general web survey results, a study by Hamilton (2009) of 199 web surveys had a median response rate of 26.2%. However, of those with samples sizes of 400 to 600 persons in the sample pool, this number dips below 20%. While these studies include far more than just government officials, it shows the response rate of local emergency management professionals in this study falls within the normal response rate for web surveys of its size. Following suggestions from various sources regarding the ease of the survey’s use, sending reminder emails, and providing an opportunity to review the basic results (should the respondent request such information) helped me to garner such a response rate (Shish and Fan 2008; Couper et al. 2004; Dillman 2007). In addition, as with other web surveys, the majority of responses occurred within 48 hours of the initial or follow-up request for information (Hamilton 2009).

Limitations of the Research Design

Quantitative social science research tests the validity of measurements using internal and external methods. While it is impossible to eliminate all the threats to a study's validity,

there are several means I employ to limit these threats, such as methods of generalization, limiting correlation, and statistical reliability (Garson 2009).

Internal Validity

According to Garson, internal validity deals with defending against sources of bias, which would affect the cause-effect process being studied by introducing covert variables into the results illustrated during quantitative testing (Garson 2009). Although web surveys are still somewhat in their infancy, and studies of the general population show that individuals with internet access represents a specific segment of the population at large, leading to selection bias in the results, the sampling frame of this study circumvents this problem by focusing on a closed population of local emergency management government officials, with easily identifiable contact information (Schonlau et al. 2006). While potentially not universal, these officials have greater access to computer and web-based resources than the general population, and their exclusion from the study occurred only when contact information proved faulty (such as dead e-mail addresses) or unavailable.

In creating the sample frame, I initially sought to include the entire population of local emergency managers. However, when this proved cumbersome, I selected out a segment of the population that adequately represented each sub-group of jurisdictions, as shown in table 3-3. The final amount of 2,420 jurisdictions was settled on after the initial (pre-study) contact returned an additional 126 contacts that were faulty for one reason or another, most of which represented jurisdictions (mostly municipalities) in the smallest population quintiles. Therefore the sample is not perfectly random, but every member of the

local emergency management community did have the opportunity of being considered in the survey, provided their contact information was publicly available and up-to-date; an effort designed to circumvent selection bias (Garson 2009).

External Validity

Garson (2009) defines the problems in a study that may harm its external validity as the biases that may occur as a result of generalization from a sample to a population. As with all point-in-time surveys, changes to the policies I consider, such as the initial implementation of the National Response Framework (NRF) in place at the national level while this study was in the field, or the change in political leadership after the 2008 election, may dramatically alter the course of emergency management and homeland security policy. But these changes will not undermine the theoretical and empirical importance of this work at its specific point-in-time. In addition, the questions of this study do not exclusively focus on the policy language specifically, but broadly on the mood and direction of the field.

Also, all places are subject to various disaster types with varying impacts on the local community and the area's larger social or economic infrastructure, and long-standing efforts to prepare for or mitigate these disasters may influence their need or desire to alter emergency management policy, even following significant dramatic events that happened elsewhere. Therefore, I cannot control how any historical event that may occur during the study will impact its outcome. My creation of a single point-in-time study seeks to mitigate these effects, but there regardless remains a major potential problem with history's effects on this study. Research has shown greater action, such as policy development or change, occurs

in the emergency management field in times following significant local disasters, and to a lesser degree from highly publicized disasters from across the globe (Birkland 1997). Recent major hurricanes like Katrina, along with the 2004 Southeast Asia tsunami, and the September 11 terrorist attacks on Washington and New York, along with international attacks against local transportation infrastructure systems in Madrid (March 2004) and London (July 2005) may have influenced the survey's results. Also, late in the survey's time in the field, flooding occurred in the upper Midwest and Great Lakes regions, which hindered response from that region of the country to an unknown degree, though it was likely only a minor drop off in potential responses that occurred as a result of this event.

Furthermore, while some key term definitions were provided for respondents within the survey, it is possible that these individuals had differing images of disaster size and scope in mind when thinking about what role the federal and local governments have during the stages of the emergency management and homeland security phase cycle. Some questions about specific actions during the phases are designed to counteract this problem, but it is wholly impossible to set every setting in great detail for the questions and respondents while keeping the length of the survey at a manageable level. It is unknown what effect this may have on the responses to the survey, and therefore there is arguably some limitation to the benefit of the data. However, I feel this limiting effect is negligible, as those in the field do show some understanding of the changes in roles and responsibilities under the new federal policy demands.

The validity of this study is significantly dependent on the response rate of those who received the survey, and their ability to understand the software and survey questions. While this survey is not difficult for a professional emergency manager to navigate, it may discourage participation among some who would potentially participate in this study, particularly those who may not be familiar with computers, the internet, or web surveys, or as previously suggested, simply lack the time or other resources within their organization to participate. The study includes results from emergency managers across the nation, from jurisdictions of all sizes, and backgrounds, which expands the generalizability of the results when making claims about the behavior and attitudes of local emergency management professionals and their organizations across the entire population (though it is limited to those in the United States).

Most states rely on counties for routine emergency management. The distribution of respondents' jurisdictions in the survey sample closely reflects the population of county governments in jurisdictions of higher populations. However, these samples often under-represent the population of county jurisdictions with smaller populations. This could be due to a lack of time and resources, non-professional or part-time emergency managers, wariness about surveys generally, or a lack of computer knowledge by the respondent. Three respondents who contacted me after perusing the survey felt it did not apply to their small-population jurisdiction, which illustrates a minimal amount of evaluation apprehension (a threat to internal validity) by those willing to participate. Table 3-1 shows the number of

county level respondents by population, and illustrates their representation in the sample population for the study.

Table 3-1 County Population Ranges

Quintile of Population (628 Counties Per Quintile)	2007 Population Estimate Within Range of Quintile	Number of Counties in the Survey's Population By Quintile	Number of Respondent Counties in the Survey's Sample Total	Percentage of Counties in the Survey's Population By Quintile	Percentage of Respondent Counties in the Survey's Population By Quintile	Percentage of Respondent Counties in the Survey's Sample Total
First Quintile	9,023 and Under	289	53	15.9%	18.3%	12.8%
Second Quintile	9,041 – 18,558	320	49	17.6%	15.3%	11.9%
Third Quintile	18,564 – 36,177	374	87	20.6%	23.3%	21.1%
Fourth Quintile	36,189 – 87,690	408	107	22.5%	26.2%	25.9%
Fifth Quintile	87,786 and Above	425	117	23.4%	27.5%	28.3%
Total (3,140 Counties)		1,816	413	100%	22.7%	100%

Some states use municipal operations exclusively or in addition to county operations when addressing emergency management demands. Table 3-2 breaks down the number of municipal level respondents by population, and illustrates their representation in the sample population. The table divides the municipalities into population quintiles in a manner similar to table 3-1.

Table 3-2 Municipality Population Ranges

Municipality Population Range	Number of Municipalities in Sample	Number of Respondent Municipalities	Percentage of Municipalities in Sample Total	Percentage of Sample Municipalities Responding	Percentage of Responses by Population Range
9,023 and Under	305	48	51.3%	15.7%	38.4%
9,041 – 18,558	98	20	16.5%	20.4%	16.0%
18,564 – 36,177	71	18	12.0%	25.4%	14.4%
36,189 – 87,690	59	16	9.9%	27.1%	12.8%
87,786 and Above	61	23	10.3%	37.7%	18.4%
Total	594	125	100%	20.7%	100%

The largest makeup of municipalities in the sample comes from the smallest population quintile, which is reflective (though there is a lag) of the population in the study. However, like the counties, the response rate increases as the jurisdiction's population increases. Once again, resource and time factors are suspected to have a role in this effect.

Also, two independent tribal nations of twelve included in the sample responded to the survey and are included in the results, making the grand total of responses in the sample 540. Table 3-3 illustrates the entire survey sample by the size of jurisdictions.

Table 3-3 Population Ranges of All Jurisdictions in Study's Sample

Jurisdiction Population Range	Number of Jurisdictions in Study	Number of Respondents in Sample	Percentage of Jurisdictions in Sample Total	Percentage of Jurisdictions Responding in Sample	Percentage of Responses by Population Range
9,023 and Under	603	103	24.9%	17.1%	19.1%
9,041 – 18,558	419	69	17.3%	16.5%	12.8%
18,564 – 36,177	445	105	18.4%	23.6%	19.4%
36,189 – 87,690	467	123	19.3%	26.3%	22.8%
87,786 and Above	486	140	20.1%	28.8%	25.9%
Total	2,420	540	100%	22.3%	100%

Finally, when considering the responses by FEMA region, regardless of location or type of jurisdiction, the data shows some bias towards the Southeastern (Region 4) and Great Lakes states (Region 5). This could have occurred due to the relative recent occurrence of events in these geographic regions (hurricanes in the Southeast and flooding, and extreme cold in the Great Lakes region) in the time leading up to the survey, which may have spurred the interest in participating of those involved. Also, simple local recognition of the university sponsoring the study, which falls within region 4, may have assisted in promoting additional responses from this zone as well. Table 3-4 shows the distribution of responses, as well as the states within each FEMA designated region.

Table 3-4 The Number of Responses to Survey Within Sample by FEMA Region

FEMA Region Number	Number of Responses	States Included in Response Sample
1	64	CT, MA, ME, NH, RI
2	20	NJ, NY
3	37	DE, MD, PA, VA, WV
4	114	AL, FL, GA, KY, MS, NC, SC, TN
5	100	IL, IN, MI, MN, OH, WI
6	66	AR, LA, NM, OK, TX
7	47	IA, KS, MO, NE
8	55	CO, MT, ND, SD, UT, WY
9	19	AZ, CA, NV
10	28	AK, ID, OR, WA

Note: VT (Region 1) and HI (Region 10) had no responses in the sample set

Dependent Variable Measurement – Federal Policy Implementation

In this study's model, decisions about federal policy implementation at the local level come into play during what Goggin and his colleagues (1990) call the "policy implementation" phase. This study considers focusing on the timing of the decision to implement these policies important because reported compliance by the key dates illustrates the desire of those involved to comply with federal standards, and the model allows for federal and local conditions to influence their choice about control over emergency management practices. Measurement of the implementation phase occurs in the study in two ways as reported by local managers. First is through the perception of general control over and within each phase of the emergency management and homeland security processes (explained in the next section). Second is whether or not local managers participated in federally mandated policy requirements for training and mutual aid as a means to test for implementation of the ICS, NIMS, and the NRP. Table 3-5 illustrates the findings of general strategies from each policy addressed in the survey that will be used as dependent variables explaining the degree of policy implementation.

Table 3-5 Reported Implementation Compliance with Federal Policy Demands by August 30, 2005

	Exceed Federal Mandate Demands	Meet Federal Mandate Demands	Do Not Meet Federal Mandate Demands
ICS Training (n=528)	130 (24.1%)	374 (69.3%)	24 (4.4%)
ICS Mutual Aid (n=490)	126 (23.3%)	329 (60.9%)	35 (6.5%)
NIMS Training (n=526)	94 (17.4%)	389 (73.9%)	43 (8%)
NIMS Mutual Aid (n=484)	99 (18.3%)	343 (63.5%)	42 (7.8%)
NRP Training (n=422)	43 (10.8%)	289 (68.5%)	90 (21.3%)
NRP Mutual Aid (n=381)	53 (13.9%)	254 (66.7%)	74 (19.4%)

When testing hypotheses related to policy implementation, this study will focus on differences between those departments who meet or exceed the federal policy requirements with those who do not by the time of Katrina's landfall (August 30, 2005). This study considers it important to focus on the timing of the decision to implement these policy requirements because it illustrates the desire of those involved to comply with federal standards, and the model allows for federal and local conditions to influence their choice about control over emergency management practices. In this case, the hypotheses will be tested based on differences between jurisdictions that chose to implement these policies

before the landfall of Katrina, and those who did not. Coincidentally, the end of the 2005 federal fiscal year, one month after Katrina's landfall, was the deadline for local NIMS adoption without placing the receipt of several federal preparedness grants at risk.

The use of the variables listed in Table 3-5 allows for testing the impact from coercion and local department practices and characteristics when local governments implement federal policies in emergency management and homeland security. If there is a strong predictive element between the receipt of grant funding with the managers reporting training, mutual aid, and performance measurement techniques that meet or exceed the policy requirements, then the study can confirm the coercion hypotheses. As for policy implementation, if the local managers report that they have implemented federal policies (generally speaking), but retain a perception of local control over the specific functions and phases, or have met selected but not all mandated implementation requirements for training and mutual aid, then there is evidence that local actors may only be nominally complying with federal policy demands. This idea will be explored further in chapters 4 and 5.

Dependent Variable Measurement – Perception of Control

This study also considers the degree to which local organizations have implemented federal policy by testing whether there is a change in how these local organizations perceive control over particular phases of emergency management and homeland security operations that the federal policies prescribe. The policies themselves represent a change of direction for federal actors in emergency management, moving from their previous role of

supplementation or support, to one with a command and control structure and the centralized assumption of “primary responsibility” over disaster operations in DHS as stated in the NRP (Lester and Krejci 2007; Posner 2007; Department of Homeland Security 2008; Takeda and Helms 2006; Waugh 2007). This phenomenon appears in spite of the fact that the Stafford Act still speaks at length about the federal level serving in an assistance or supplemental role, with the dissonance between the two creating a confusing system for those forced to adapt. I argue that, as a result of this attempt to centralize the process for emergency management operations as well as prioritizing actions designed to prevent terrorism, the federal government considers all actions during the phases of the hazard cycle (mitigation, preparedness, response, recovery), as well as the stages of homeland security operations (preparation, protection, prevention, recovery) as something that they have more involvement in, if not the outright direct responsibility to lead. Therefore, local governments, in order to comply with the federal policies, would need to recognize the increased importance of, if not direct control by, the federal government over these general stages and the steps generally taken within each stage. It is important to understand the reasons behind any potential gap in local actors’ perception of control that differing levels of government maintain over these phases, especially while the tasks and stages are not analogous between homeland security operations and the hazard cycle, since the federal policies claim to favor unity in method to address all types of disastrous incidents.

Using a Likert scale to rate the degree of importance, respondents were asked about the role of each level of government during each stage of the hazard cycle and homeland security operations. This serves as the primary measurement for perception of control:

whether or not local managers assume greater federal, state, or personal (local) responsibility over each phase. Traditionally, one could expect these actors to report “extremely important” levels for their own operations, so this study will focus on the reasons what reasons similarly strong measurements can be expected for the federal level for particular actions and phases. Table 3-6 provides information from the survey used as the dependent variables for control over the general emergency management and homeland security stages when testing hypotheses based on perception of control.

Table 3-6 Reported Perception of Federal Government Role During Emergency Management and Homeland Security Stages Dependent Variables

Variable Name	Extremely Important	Very Important	Important	Not Very Important	Not Important at All
Mitigation Control (n=531)	280 (52.7%)	162 (30.5%)	84 (15.8%)	4 (0.8%)	1 (0.2%)
EM Preparedness Control (n=529)	319 (60.3%)	134 (25.3%)	73 (13.4%)	3 (0.6%)	0
Response Control (n=529)	313 (59.2%)	125 (23.6%)	87 (16.4%)	4 (0.8%)	0
EM Recovery Control (n=530)	371 (70%)	111 (20.9%)	42 (7.9%)	6 (1.1%)	0
Prevention Control (n=533)	387 (72.6%)	90 (16.9%)	53 (9.9%)	3 (0.6%)	0
Protection Control (n=529)	341 (64.5%)	114 (21.6%)	68 (12.9%)	6 (1.1%)	0
HS Preparation Control (n=528)	342 (64.8%)	124 (23.5%)	57 (10.8%)	4 (0.8%)	1 (0.2%)
HS Recovery Control (n=531)	380 (71.6%)	98 (18.5%)	47 (8.9%)	5 (0.9%)	1 (0.2%)

The results in Table 3-6 demonstrate a clear bias, which highlights the perceived importance and role of the federal government within each stage of the CEM “hazard cycle” and for homeland security stages. These results also suggest that the local governments want to follow through with the federal policy demands, which will reward the local operations with financing and other means for support before, during, and after a disaster occurs. However, Table 3-7 (below) demonstrates very similar results, only with the respondents focusing upon their own, local departments, which reiterates the local actor’s desire to maintain control over the operations throughout the CEM hazard cycle and homeland security process.

Table 3-7 Reported Perception of Local Government Role During Emergency Management and Homeland Security Stages Dependent Variables

Variable Name	Extremely Important	Very Important	Important	Not Very Important	Not Important at All
Mitigation Control (n=534)	345 (64.6%)	118 (22.1%)	60 (11.2%)	8 (1.5%)	3 (0.6%)
EM Preparedness Control (n=536)	405 (74.6%)	97 (18.1%)	29 (5.4%)	5 (0.9%)	0
Response Control (n=538)	445 (82.7%)	75 (13.9%)	17 (3.2%)	1 (0.2%)	0
EM Recovery Control (n=537)	403 (75%)	99 (18.4%)	32 (6%)	3 (0.6%)	0
Prevention Control (n=538)	277 (51.5%)	114 (21.2%)	115 (21.4%)	30 (5.6%)	2 (0.4%)
Protection Control (n=530)	293 (55.3%)	127 (24%)	92 (17.4%)	15 (2.8%)	3 (0.6%)
HS Preparation Control (n=528)	354 (67%)	100 (18.9%)	60 (11.4%)	11 (2.1%)	3 (0.6%)
HS Recovery Control (n=535)	371 (69.3%)	99 (18.5%)	52 (9.7%)	11 (2.1%)	2 (0.4%)

Like in Table 3-6, Table 3-7 shows the same perceived bias as towards the highest levels of importance during each stage of the CEM hazard cycle and the homeland security stages. Table 3-7 shows that the ratios are much more pronounced within the CEM stages favoring the “extreme” level of importance. However, during the “prevention” and “protection” stages on the homeland security side, the local actors generally report a slightly more moderate perception towards the importance of their own department’s role than that of

the federal government. The other two stages in homeland security, preparation and recovery, closely mirror the perceived importance of the federal government's role.

But, the ability to determine whether local organizations ceded control over specific actions that the new policy language addressed during each phase of the hazard cycle finds itself conflated or contradictory in relation to the federal prescriptions for emergency management and homeland security, suggesting that local actors still see the actual operations as the responsibility of those on the ground for some actions, and no longer locally controlled in others. Thus, the study, and the measurement of perception includes more than just the importance of each level of government during each stage of the hazard cycle and homeland security operations. It is important for this study to note whether or not local actors now perceive certain tasks that are traditional to local emergency management in each stage, as the "primary responsibility" of the federal government, and it is also important to note the predictive reasons leading local departments in this direction, since it represents a significant shift in behavior by these officials. The survey asked respondents what level of government, in their mind, has "primary responsibility" over four tasks in each stage of the hazard cycle, and the results are illustrated below in table 3-8.

**Table 3-8 Perceived Primary Responsibility of Function Within the Hazard Cycle
Dependent Variables in the Study**

Variable Name	Hazard Cycle Stage	Federal	State	Local
Building Code Development (n=453)	Mitigation	19 (4.2%)	149 (32.9%)	285 (62.9%)
Hazard Information System Development (n=365)	Mitigation	64 (17.5%)	157 (43%)	144 (39.5%)
Land Use Management (n=420)	Mitigation	22 (5.2%)	78 (18.6%)	320 (76.2%)
Inspection of Public/Private Facilities (n=430)	Mitigation	2 (0.5%)	74 (17.2%)	354 (82.3%)
Establishment of Emergency Operations Centers (n=484)	Preparedness	3 (0.6%)	29 (6%)	452 (93.4%)
Broadcast Trial Emergency Communications (n=431)	Preparedness	25 (5.8%)	143 (33.2%)	263 (61%)
Lead Emergency Management Efforts (n=474)	Preparedness	27 (5.7%)	144 (30.4%)	303 (63.9%)
Create Emergency Warning Systems (n=435)	Preparedness	36 (8.3%)	84 (19.3%)	315 (72.4%)
Activate Emergency Plans (n=502)	Response	2 (0.4%)	21 (3.9%)	479 (95.4%)
Broadcast Actual Emergency Communications (n=475)	Response	9 (1.9%)	100 (21.1%)	366 (77.1%)
Mobilize Necessary Resources (n=489)	Response	8 (1.6%)	91 (18.6%)	390 (79.8%)
Search and Rescue (n=490)	Response	8 (1.6%)	49 (10%)	433 (88.4%)
Perform Damage Assessments (n=478)	Recovery	22 (4.6%)	79 (16.5%)	377 (78.9%)
Reassess Emergency Plans (n=489)	Recovery	5 (1%)	94 (19.2%)	390 (79.8%)
Staff Disaster Assistance Centers (n=463)	Recovery	133 (28.7%)	155 (33.5%)	175 (37.8%)
Assess Response Performance (n=430)	Recovery	23 (5.3%)	116 (27%)	291 (67.7%)

Responses for each level during the hazard cycle and homeland security stages, as well as the specific functions in the hazard cycle, and the predictive reasons behind certain attitudes will test whether local emergency managers are selectively choosing parts of the policy that benefit their local demands while maintaining their local focus on particular aspects of emergency management, rather than fully complying with federal demands, and are therefore only nominally complying with federal priorities. Also, these variables allow for testing of coercion as the driving factor behind those who recognize the federal policy's control over all aspects of emergency management and homeland security, should funding from the federal level be a significant predictor of perceived federal control, as my hypotheses anticipates.

Independent Variable Measurement – Federal Inducements

My adaptation of the communications model developed by Goggin and his colleagues (1990) allows for both “top-down” and “bottom-up” factors to influence implementation decisions at the local level. Federal (top-down) inducements in this study include the funding outlets (grants) that are associated with adoption of the NRP, NIMS, and ICS, as well as the extent to which those in charge of implementing the policies reported that they clearly understood the policies' demands.

Local governments found themselves at risk of losing specific grants for emergency management operations should they not comply with federally mandated deadlines for adoption. In this study, the survey questioned local managers whether their organization

received four specific preparedness grants (the Flood Mitigation Assistance Program, the Hazard Mitigation Grant Program, the Homeland Security Grant Program, and the National Infrastructure Protection Plan), when they got such funding, and for how much. Whether or not local actors' received these funds serves as the main variable for testing the hypotheses related to coercion.

Additionally, respondents were asked to judge their understanding of the federal policies considered in the dependent variables. Questions and variables regarding the clarity of federal policy like this were cited as the strongest predictor of federal policy implementation in Goggin and his colleagues' (1990) original study. In this adaptation, two separate Likert scale style questions seek to determine whether or not these managers felt that the new federal policy clearly identifies their local organizations' responsibilities, with the results illustrated in table 3-9.

Table 3-9 Reported Clarity of ICS and NIMS Policy Demands

	Very Clear	Somewhat Clear	Equally Clear and Unclear	Somewhat Unclear	Very Unclear
ICS (n=480)	294 (54.4%)	117 (21.7%)	37 (6.9%)	16 (3%)	16 (3%)
NIMS (n=479)	262 (48.5%)	135 (25%)	46 (8.5%)	18 (3.3%)	18 (3.3%)

Furthermore, whether the respondent felt that federal policies favor one particular hazard or all hazards equally when dictating how local emergency management departments need to function in the system of government serves as a measurement of the policy's

commitment to CEM practices. Table 3-10 demonstrates results that reflect earlier study's claims that the federal policies since the September 11 attacks disproportionately favor terrorism when actually applied.

Table 3-10 Perceived Favoritism of Federal Policies

	Terrorism	Natural Disasters	Accidental Disasters	All Hazards Equally
Reported Policy Favoritism (n=474)	387 (71.7%)	6 (1.1%)	1 (0.2%)	80 (14.8%)

Finally, Table 3-11 illustrates the number of grants received from the four specific preparedness grants of focus within this study (the Flood Mitigation Assistance Program, the Hazard Mitigation Grant Program, the Homeland Security Grant Program, and the National Infrastructure Protection Plan) since they are tied to NRP implementation (and thus NIMS and ICS implementation). This serves as the main measurement for hypotheses related to coercion.

Table 3-11 Number of Federal Grants Received by Local Emergency Management Departments in Sample

Total Number of Grants Received	0	1	2	3	4
Number of Respondents (n=483)	218 (40.4%)	192 (35.6%)	58 (10.7%)	10 (1.9%)	5 (0.9%)

Independent Variable Measurement – Local Department Practices

In measuring the “bottom-up” characteristics that may spur decisions related to implementation of policy, as well as the perception of control, this study considers the history of the local department and its use of CEM strategies. Specifically, the use of “tools” in emergency management, designed to address all stages of the hazard cycle and expedite effective service delivery, should the time come for their use during a disastrous situation. These methods include forming mutual aid agreements with peer jurisdictions, participating in training seminars, and using practice scenarios to address hazards identified as likely within a particular jurisdiction. The survey for this study queries managers about their use of these means to prepare for potential incidents during different time frames. I argue that the earlier these individual jurisdictions recognized the benefit of these methods, and took advantage of their strengths, that these individuals will be in turn increasingly more reluctant to discount any local knowledge or expertise gained through their development. Therefore, these individuals may be willing to completely forgo the federal policy prescriptions for emergency management and homeland security, regardless of the federal demands or the organization’s ability to comply with them.

However, the use of these “tools” in local emergency management may also push local organizations to implement federal policies in ways that benefit their own district first, and not the centralization efforts of the federal policy demands. Individual jurisdictions that use these “tools” may sense a great deal of overlap with the new federal policy demands, or believe they have already met these expectations based on past performance, without realizing the sustentative change in leadership and participation during a disastrous incident

by those at the federal level. It is possible that the individuals using the previously mentioned means report compliance with federal demands based solely on use of these tools, and nothing else, which does not mean that they perceive any additional changes in local control over the various stages of the hazards cycle, or their daily operations with regards to full compliance with the federal policies.

It is also important to note that the variables for state and local inducements measuring training and mutual aid are not the same as those in the dependent variable accounting for federal policy implementation. At this stage, my questions specifically ask when such actions took place to determine the jurisdiction's history and familiarity with CEM strategies. This study wants to determine whether those who serve in jurisdictions with a long history of using these methods to prepare for and respond to all types of incidents are significantly different from those who do not. It is possible that those who have a long history with these means may feel a greater sense of overlap between what they do and what the federal policies prescribe, but it may also be another reason for local actors to cite "compliance" with the federal prescriptions, while not changing their perception about control over the field in the same way that federal actors and policies describe.

Table 3-12 Reported Use of Local Inducements Before the September 11 Attacks

	Performed Activity Before the September 11 Attacks	Did Not Perform the Activity Before the September 11 Attacks
Training – Terrorism Preparation (n=512)	133 (24.6%)	379 (75.4%)
Training – Terrorism Recovery (n=508)	136 (25.2%)	372 (74.8%)
Training – Natural Disaster Preparation (n=524)	440 (81.5%)	84 (18.5%)
Training – Natural Disaster Response (n=518)	425 (82%)	93 (18%)
Training – Natural Disaster Recovery (n=504)	281 (52%)	223 (48%)
Drills – Terrorism (n=508)	98 (18.1%)	410 (81.9%)
Drills – Natural Disasters (n=520)	371 (68.7%)	149 (31.3%)
Entered Into at Least 1 Mutual Aid Agreement (n=512)	427 (83.4%)	85 (16.6%)

Independent Variable Measurement – Local Government Capacity

Once local organizations decide whether or not to implement the new federal policies, their capacity to implement these policies can assist or detract from the department's ability

to follow through and meet all of the federal mandate's requirements. Even with the full intention of implementing the federal demands, a local organization's limitations in manpower, funding, or decision-making ability can hinder the organization's ability to follow through. Table 3-13 lists measurements of local capacity used in this study to test the hypotheses relating to perception of control and specific policy implementation. The table also identifies what type of capacity measurement each variable is based on Goggin and his colleagues' (1990) definition.

Table 3-13 Variables Measuring Local Government Capacity

Variable Name	Type of Variable (Goggin et al. 1990)	Definition of Variable	How Measured in Survey?
Change in Organization's Staff Since 2001	Organizational Capacity	What is the FTE size of the local EM organization?	Number of Full Time Equivalent Employees in the Organization Before September 11, Between September 11 and August 2005, Since August 2005
Change in Local Budget Since 2001	Organizational Capacity	Has the department's budget increased/decreased/stayed about the same since the September 11 attacks?	Likert Scale: Higher, Lower, Stayed the Same
Jurisdiction Population	Ecological Capacity	What is the size of the jurisdiction?	Population
Jurisdiction Type	Ecological Capacity	Local government jurisdiction	County, Municipality, Special District, Indian Tribe, Other, Unsure
Political Culture	Ecological Capacity	What kinds of powers do local governments have in policy development?	Dillon's Rule, Home Rule, or Mix by State

Tables 3-1 and 3-2 illustrate the type of and population of jurisdictions within the sample that are used as independent variables when testing the study's hypotheses. Table 3-4 describes in what FEMA region the respondent's jurisdictions are located. Table 3-14 shows the final two capacity measurements, the change in the organization's budget and FTE staff size.

Table 3-14 Changes in Local Emergency Management Department Capacity Between September 11, 2001 and August 30, 2005

	Increased Significantly	Increased Slightly	Remained About The Same	Decreased Slightly	Decreased Significantly
Local Department Budget (n=526)	90 (16.7%)	205 (38%)	173 (32%)	33 (6.1%)	25 (4.6%)
Local Department FTE Staff Size (n=515)	113 (20.9%)	50 (9.3%)	307 (56.9%)	16 (3%)	29 (5.4%)

Hypothesis Testing Methodology

Obviously, there may be dramatic differences in the measurement of the independent and dependent variables between and within states. However, the study tests for any collinearity between the measurements in order to determine effects that may skew the results, particularly in the realm of the organization's ecological capacity. It is possible that jurisdictions that subscribed to CEM strategies for an extended period of time may use all of the "tools" available at their disposal. Thus, testing for collinearity between the variables is

necessary to eliminate any reciprocal effects from these variables when performing predictive analysis, which may impact the finding's validity.

Collinearity testing will occur within each section of the independent variables identified in models shown in Chapter 2 of this document as follows:

Federal Inducements: Policy favoritism, policy clarity, the number of federal grants received

Local Department Practices: Training before the September 11 attacks, drills before the September 11 attacks, mutual aid agreements in place before the September 11 attacks

Local Department Capacity: Jurisdiction type (county), (log) population, change in the local department's FTE staff size between the September 11 attacks and August 30, 2005, change in the local budget between the September 11 attacks and August 30, 2005, political culture (home rule), FEMA region

When testing this study's hypotheses, this study focuses on the factors behind local actors' decision whether or not to implement by the landfall of Hurricane Katrina (measured as August 30, 2005), one month before deadline date. These dependent variables have an ordinal format, which ranks the degree of compliance, clarity, or satisfaction with a policy, while some variables (actions during the hazard cycle perceived as federal responsibility) are combined into index scores to measure the impact from multiple factors that are similar in nature. This is done to enhance the variance in the results as opposed to those from simple

logistic regression testing, and because several of the hypotheses test for differences based on implementation of policy as well as the perception of local control over emergency management functions and stages by key dates or at specific reported levels.

Summary

This chapter provided an overview of the methods that this study uses to illustrate the current state of the emergency management field, and the effects from coercion, local practices, and capacity on local implementation of federal policy priorities. The following chapters put the methods explained in this chapter into action when testing policy implementation theory. This will lead into a discussion in the final chapter about how the newly implemented NRF, as well as additional changes under the Obama administration, can spur or inhibit future development in this area, as well as speculation about future problems in federal and local relations when a major disaster occurs.

CHAPTER 4: ANALYSIS OF POLICY IMPLEMENTATION AND PERCEPTION OF CONTROL HYPOTHESES

Introduction

This chapter presents the results of the hypothesis testing, using the survey of local emergency management professionals fielded in the late spring of 2008. The survey's findings provide for a statistical analysis of the hypotheses based in policy implementation theory and standard comprehensive emergency management (CEM) practices.

Correlation Testing

Before examining the hypotheses for this study, I tested for possible multicollinearity of the independent variables, since any relationship between these variables can exaggerate their power within the model.

To determine the existence of collinearity among the independent variables, I tested the variables within each element of the adapted communications model (federal inducements, local department practices, and local department capacity) separately. The results produced variables that are correlated within each subset of the adapted communications model. The discussion in this section of the chapter will explain these findings, and how I will deal with the effects from the correlated variables when performing hypothesis testing.

Correlation Testing for Federal Inducements Stage

Table 4-1 shows how each variable within the federal inducement section of the adapted communications model is coded in dichotomous format. All missing variables (unsure or no response) are dropped from consideration. The study seeks to discover if the local actors report understanding the policy, which spurs implementation in the original Goggin (1990) study. In addition, the perceived favoritism among those who study emergency management of the policies specifically designed in response to the September 11 attacks, and whether or not the jurisdictions received any grant funding, which is a form of coercion, serve as variables for this stage of the adapted communications model.

Table 4-1 Coding of Federal Inducement Independent Variables

Variable	How Coded?
Reported Degree of NIMS Policy Clarity	0 – Equally Clear and Unclear or Worse
Reported Degree of ICS Policy Clarity	1 – Very or Somewhat Clear
Reported Degree of Federal Policy Favoritism	0 – All Hazards Equally, Natural Disasters, or Accidental Disasters
	1 – Terrorism
Reported Number of Grants Received by Respondent's Jurisdiction	0 – No Grants Received
	1 – 1 or More Grants Received

Table 4-2 illustrates the reported degree of correlation among variables within the federal inducement category of the adapted communications model. The results show a strong and significant relationship between the reported degree of ICS and NIMS policy clarity.

Table 4-2 Correlation Testing of Federal Inducement Independent Variables

		Reported Degree of NIMS Policy Clarity	Reported Degree of ICS Policy Clarity	Reported Degree of Federal Policy Favoritism	Reported Number of Grants Received by Respondent's Jurisdiction
Reported Degree of NIMS Policy Clarity	Pearson Cor	1	.892***	-.048	.047
	N	479	475	437	424
Reported Degree of ICS Policy Clarity	Pearson Cor	.892***	1	-.027	.015
	N	475	480	437	427
Reported Degree of Federal Policy Favoritism	Pearson Cor	-.048	-.027	1	-.021
	N	437	437	474	417
Reported Number of Grants Received by Respondent's Jurisdiction	Pearson Cor	.047	.015	-.021	1
	N	424	427	417	478

*** p<.001 (2-tailed)

The fact that the NIMS and ICS policy clarity variables have a high level of correlation is not surprising given that ICS is a key component of NIMS. Since the policy language of NIMS includes ICS, I created an index variable, which combines the two variables using their Likert scale figures from Table 3-9. The Likert scale figures were given an ordinal value ranging from 5 (Very Clear) to 1 (Very Unclear), and the score from ICS clarity was added to the NIMS clarity score to create the index variable. Testing for

Hypothesis #3 focuses on this piece of the adapted communications model, expecting this variable to have a significant effect on the decision to implement and the perception of control over emergency management and homeland security stages and functions favoring the federal government. Although, the clarity index variable, along with the other two dichotomous variables within this stage of the adapted communications model (more than one grant received and the federal policies are perceived to favor terrorism) are included when testing all three hypotheses.

Correlation Testing for Local Practices Stage

Table 4-3 shows how each variable from the local practices stage of the adapted communications model is coded in a dichotomous fashion. In this case, the significant feature of these variables is the experience of the department with CEM practices, measured by the date on which the local departments undertook several standard CEM practices; before or after the September 11 attacks. This study also considers if the respondents claimed their jurisdiction was part of a mutual aid pact with another peer jurisdiction, which is an additional standard CEM practice.

Table 4-3 Coding of Local Department Practices Independent Variables

Variable	How Coded?
Date of First Local Training Exercise for Terrorism Preparation	
Date of First Local Training Exercise for Terrorism Recovery	
Date of First Local Training Exercise for Natural Disaster Preparation	0 – After the September 11, 2001 Attacks
Date of First Local Training Exercise for Natural Disaster Response	1 – Before the September 11, 2001 Attacks
Date of First Local Training Exercise for Natural Disaster Recovery	
Date of First Local Drill for Terrorism	
Date of First Local Drill for Natural Disasters	
Number of Mutual Aid Agreements Reported with Peer Jurisdictions	0 – No Mutual Aid Pacts 1 – More Than One Mutual Aid Pacts

Table 4-4 demonstrates the correlation testing results for independent variables stemming from local department practices. All variables within this subset have a significant correlation with one another. This is not surprising given the pervasiveness of CEM in the field, which would suggest local departments partake in at least some of these actions routinely.

Table 4-4 Correlation Testing of Local Department Practices Independent Variables

		Date of First Local Training Exercise for Terrorism Prepara- tion	Date of First Local Training Exercise for Terrorism Recovery	Date of First Local Training Exercise for Natural Disaster Preparation	Date of First Local Training Exercise for Natural Disaster Response	Date of First Local Training Exercise for Natural Disaster Recovery	Date of First Local Drill for Terrorism	Date of First Local Drill for Natural Disasters	Number of Mutual Aid Agreements Reported with Peer Jurisdictions
Date of First Local Training Exercise for Terrorism Preparation	Pearson Cor	1	.772***	.209***	.206***	.285***	.538***	.274***	.152***
	N	522	512	501	516	508	504	511	503
Date of First Local Training Exercise for Terrorism Recovery	Pearson Cor	.772***	1	.196***	.215***	.191***	.547***	.222***	.141***
	N	512	517	511	511	505	501	505	499
Date of First Local Training Exercise for Natural Disaster Preparation	Pearson Cor	.209***	.196***	1	.499***	.333***	.184***	.390***	.182***
	N	515	511	528	519	508	509	516	502

Table 4-4 Continued: Correlation Testing of Local Department Practices Independent Variables

		Date of First Local Training Exercise for Terrorism Prepara- tion	Date of First Local Training Exercise for Terrorism Recovery	Date of First Local Training Exercise for Natural Disaster Preparation	Date of First Local Training Exercise for Natural Disaster Response	Date of First Local Training Exercise for Natural Disaster Recovery	Date of First Local Drill for Terrorism	Date of First Local Drill for Natural Disasters	Number of Mutual Aid Agreements Reported with Peer Jurisdictions
Date of First Local Training Exercise for Natural Disaster Response	Pearson Cor	.206***	.215***	.499***	1	.447***	.163***	.456***	.260***
	N	516	511	519	526	511	506	514	504
Date of First Local Training Exercise for Natural Disaster Recovery	Pearson Cor	.285***	.191***	.333***	.447***	1	.149***	.376***	.230***
	N	508	505	508	511	515	497	505	496
Date of First Local Drill for Terrorism	Pearson Cor	.538***	.547***	.184***	.163***	.149***	1	.254***	.119***
	N	504	501	509	506	497	517	512	498
Date of First Local Drill for Natural Disasters	Pearson Cor	.274***	.222***	.390***	.456***	.376***	.254***	1	.210***
	N	511	505	516	514	505	512	524	502
Number of Mutual Aid Agreements Reported with Peer Jurisdictions	Pearson Cor	.152***	.141***	.182***	.260***	.230***	.119***	.210***	1
	N	503	499	506	504	496	498	502	512

*** p<0.01 (2-tailed)

Table 4-4 confirms that jurisdictions that were highly active in performing CEM tasks, such as exercises, drills and creating mutual aid agreements with peer jurisdictions prior to the September 11 attacks, were likely to do so across the stages of the hazard cycle for natural disasters and terrorism alike. While the correlations are statistically significant, the correlation coefficients are fairly weak. However, I decided to create index variables once again for the local inducement stage when testing the hypotheses for this study. To do so, I combined the terrorism related actions into one variable, and the natural disaster related variables into another, adding together the instances of those who reported performing the training exercises and drills before September 11 attacks in each category. Mutual aid agreements remains as its own independent variable within the model in dichotomous format.

Correlation Testing for Local Department Capacity Stage

The next table (4-5) shows how each local department capacity variable is coded in dichotomous fashion, with the exception of population, which is logged to promote normality. Once again, the study is interested if there are effects from increased population, department staffing, and funding upon each of the dependent variables within the hypotheses. The remaining variables from this stage of the adapted communications model are “dummy” variables, such as the selected FEMA region (number 4, which covers the southeastern states), whether the respondents were from a county (which includes the majority of the respondents to the survey), and a Dillon’s rule state (which includes the majority of states nationwide).

Table 4-5 Coding of Local Department Capacity Independent Variables

Variable	How Coded?
County	0 – Municipality 1 - County
Change in the Local Department's FTE Staff Size Between September 11, 2001 and August 30, 2005	0 – Decreased in Staff or Remained the Same 1 – Increased in Staff
Change in the Local Department's Budget Between September 11, 2001 and August 30, 2005	0 – Decreased in Budget or Remained the Same 1 – Increased in Budget
Dillon's Rule State	0 – Home Rule State 1 – Dillon's Rule State
FEMA Region 4	0 – All Other FEMA Regions 1 – FEMA Region 4
Population of Respondent's Jurisdiction (logged)	Logged population of each respondent's jurisdiction

Finally, Table 4-6 demonstrates the correlation testing results for the local department capacity variables. Some correlation exists between variables in this subset, particularly those related to the physical makeup of the jurisdiction.

Table 4-6 Correlation Testing of Local Department Capacity Independent Variables

		County	Population of Respondent's Jurisdiction (logged)	Change in the Local Department's FTE Staff Size Between September 11, 2001 and August 30, 2005	Change in the Local Department's Budget Between September 11, 2001 and August 30, 2005	Dillon's Rule State	FEMA Region 4
County	Pearson Cor	1	-.300***	.088**	.072	.136***	.242***
	N	540	540	515	526	540	540
Population of Respondent's Jurisdiction (logged)	Pearson Cor	-.300**	1	.190***	.020	.014	.153***
	N	540	540	515	526	540	540
Change in the Local Department's FTE Staff Size Between September 11, 2001 and August 30, 2005	Pearson Cor	.088**	.190***	1	-.002	.020	.023
	N	515	515	515	501	515	515
Change in the Local Department's Budget Between September 11, 2001 and August 30, 2005	Pearson Cor	.072	.020	-.002	1	-.059	.020
	N	526	526	501	526	526	526

Table 4-6 Continued: Correlation Testing of Local Department Capacity Independent Variables

		County	Population of Respondent's Jurisdiction (logged)	Change in the Local Department's FTE Staff Size Between September 11, 2001 and August 30, 2005	Change in the Local Department's Budget Between September 11, 2001 and August 30, 2005	Dillon's Rule State	FEMA Region 4
Dillon's Rule State	Pearson Cor	.136***	.014	.020	-.059	1	.013
	N	540	540	515	526	540	540
FEMA Region 4	Pearson Cor	.242***	.153***	.023	.020	.013	1
	N	540	540	515	526	540	540

*** p< 0.01 (2-tailed) ** p< 0.05 (2-tailed)

The variable “County” is correlated with more than one other variable within this subset, but because the correlations are rather weak, I left it in the model when testing the hypotheses. The only other significant correlation occurs when the population of the jurisdiction increases, though once again the coefficients for these correlations are weak, so no changes were made. As the jurisdictions’ population increases, so do the FTE staffing size and the likelihood of the jurisdiction being in FEMA Region 4. This can be expected due to the enhanced attention given to disasters nationwide, and particularly in large jurisdictions, following the September 11 attacks and the various natural hazards in the southeast portion of the country. Several of the respondent jurisdictions in FEMA region 4 are in more populated counties as well, so I decided to allow these variables remain for hypothesis testing in their current format.

Because of the correlation that exists within each subset in the adapted communications model, the adapted communications model now includes the following variables for use in ordinal logistic regression testing of the hypotheses:

Federal Inducements: Policy clarity index (NIMS clarity rating + ICS clarity rating), received a federal grant, federal policy favoritism

Local Department Practices: Mutual aid agreements, natural disaster index (training during each stage + drills before the September 11 attacks), terror index (training during each stage + drills before the September 11 attacks)

Local Department Capacity: Change in local department budget, change in FTE staff size, jurisdiction population (log), Dillon’s rule state, FEMA region 4, County

A brief explanation of each independent variable in the model can be found in Appendix E of this document.

To test the hypotheses that follow, I used the ordinal regression method to model the relationship between the ordinal outcome variable, e.g. different levels of implementation of federal policy demands and the perception of the federal government’s role during emergency management and homeland security actions, and the explanatory variables concerning demographics of the jurisdiction and local department as well as federal inducements and local department actions stemming from common CEM practices before key dates identified in Chapter 3. To study the effects of explanatory variables on all levels of the ordered categorical outcome, an ordinal regression method must be appropriately chosen to obtain valid results. For Likert-scale ratings, Chen and Hughes, Jr. (2004) claim “it is implausible to assume normality and homogeneity of variance for ordered categorical outcome when the ordinal outcome contains merely a small number of discrete categories,” such as the dependent variables in this study. Thus, the ordinal regression model becomes a preferable modeling tool that does not assume normality and constant variance, but require the assumption of parallel lines across all levels of the categorical outcome. Simply put, the ordinal method is preferred to ordinary least squares (OLS) regression as the values for the dependent variables are ordered, and have extreme cases of non-normality (as illustrated in Table 3-5, Table 3-6, and Appendix B). Having a limited range of ordered values in each

dependent variable measurement also eliminates the use of multinomial logistic regression techniques.

Appendix C illustrates testing for the parallel lines assumption (also known as the proportional odds assumptions) for all the dependent variables, as well as the cut points for each ordinal regression model. A handful of the ordinal models violate the parallel lines assumption. However, several statistics sources (Garson 2011; Williams 2006; Scott et al. 1997; Gameroff 2005) cite the sensitivity of this testing method to large sample sizes leading to a violation of the proportional odds assumption, and that researchers ignore the testing when reporting the results given its unreliability. I chose to follow the same path given that not all models violated this assumption.

Hypothesis #1 Testing – Use of Preparedness Practices (“Tools”)

Overview

The first hypothesis tests the experiences of a local department, and the department’s use of CEM principles. I believe these factors have a significant inverse effect on the implementation of federal policies (NIMS, ICS, and the NRP) and perceived federal control of emergency management functions. The hypothesis is expressed as follows for the two dependent variables of interest to this study:

Hypothesis #1a: The higher the reported level of use of standard emergency preparedness practices (“tools”), the lower the reported level of federal policy implementation.

Hypothesis #1b: The higher the reported level of use of standard emergency preparedness practices (“tools”), the lower the level of perceived federal control.

These hypotheses addresses the literature’s suggestion that the federal policies are not aligned with traditional local CEM practices. Several theorists agree that the demands from the new federal policies do not conform to the traditional CEM, all-hazards mentality, despite the fact that the policy’s mandates claim to do so (Waugh 2007; Tierney 2005; Waugh 2006; McEntire 2004; Demchak 2002; Scavo et al. 2008; Hite 2006; Lieberman et al. 2007). This suggests that local departments that used CEM “tools” would not support any of those federal policy goals, which appear misaligned with the experiences of local actors.

Implementation Analysis

Using the findings for implementation listed in Table 3-5 as the dependent variables, I ran several ordinal logistic regression models in an effort to test the hypotheses. The dependent variable for implementation of each policy’s requirements is in ordinal format, with exceeding the federal deadline being the highest value, meeting the federal mandate being the middle, and not meeting federal expectations rating the lowest. Table 4-7 (below) illustrates how for every one unit increase in the independent variables, there is an associated increase in the log odds (listed in the table) of exceeding the federal demands for the particular policy requirements. The results highlight the importance of policy clarity, as well as tools used to prepare for terrorism before the September 11 attacks.

**Table 4-7 Adapted Communications Model Testing of Policy Implementation
Dependent Variables (Odds Ratios and Significance)**

	ICS Training	ICS Mutual Aid	NIMS Training	NIMS Mutual Aid	NRP Training	NRP Mutual Aid
<i>Federal Inducements</i>						
Policy Clarity Index	1.07**	1.14***	1.10***	1.13***	1.12***	1.13***
Received One or More Grants	.864	.934	.762	.853	1.21	.812
Policy Favors Terrorism	1.13	1.18	.947	1.11	1.22	.961
<i>Local Inducements</i>						
Participates in One or More Mutual Aid Agreements	.900	1.51	.920	1.27	1.28	1.24
Natural Disaster Action Index	1.11	1.02	1.07	1.03	1.10	1.17
Terrorism Action Index	1.41***	1.27***	1.44***	1.46***	1.39***	1.54***
<i>Local Department Capacity</i>						
County	1.04	.823	1.14	1.16	.936	.895
Dillon's Rule State	.859	1.06	.789	1.08	.979	1.10
Increase in Annual Department Budget	1.03	1.18	1.03	1.26	1.23	1.60**
Population (log)	1.14	.900	1.21	.752	1.09	1.04
FEMA Region #4	1.78**	1.34	1.04***	1.29	1.24	1.75*
Increase in FTE Staff Size	1.23	1.33	.863	1.19	1.22	1.14
p	.0007	.0002	.0002	.0002	.0007	.000
Pseudo R ²	.05	.05	.05	.05	.05	.08
N	474	439	471	433	380	341

*** p < .01, ** p < .05, * p < .10

The results in Table 4-7 are important for testing Hypothesis #1a, as all six iterations of the adaptive communications model are statistically significant. An enhanced level of actions related to terrorism performed locally before the September 11 attacks enhances the odds of being in the higher levels of all the federal policy requirements (meaning exceeding the federal mandates), given all other variables are held constant. This finding is not surprising, as it suggests local decision makers that considered terrorism a threat before the September 11 attacks are performing actions that fall in line with federal policies that are seen to favor terror threats by the respondents and in the literature. However, it is not in agreement with the hypothesis, which expected those who were active by any means before the September 11 attacks to reject the federal policies, and not meet the policy expectations, meaning that Hypothesis #1a should be rejected. But, this finding could be a result of active departments considering terrorism as a threat for an extended period, and as such the new policies may be interpreted as not necessarily asking local departments to do anything different than they always have in the past in response to perceived hazards and threats in the jurisdiction.

Perception Analysis

A deeper look into the perception of control over the stages of the CEM hazard cycle and homeland security phases allows for further testing of the effects that the use of preparedness tools could have upon the behavior of local actors in support of (or in contrast to) federal policy demands. The language of NIMS, ICS, and the NRP suggests that the federal government should be seen as having a significant, leading role over each stage of the CEM hazard cycle and the phases of the homeland security process. If local actors indeed are

following the federal policy prescriptions, they should recognize federal control to a greater extent in these stages/phases. However, this was not the case, as the general results found local actors still perceiving local control to a great extent (as seen in Table 3-6 and 3-7), which is something perhaps stemming from traditional CEM teachings and practices. Therefore, the adapted communications model turns out results, illustrated in Table 4-8, which test the effects that could stimulate local actors to perceive a greater federal role over these stages/phases. Hypothesis #1b suggests that those who took an active role before the September 11 attacks should reject a stronger federal role. With none of the models turning out overall statistical significance, I am inclined to believe that local officials are being defensive of their classical role within the system of disaster management. The dependent variables tested in this table are ordinal, ranging from 5 (Extremely Important) to 1 (Not Very Important at All) for federal control over each stage.

Table 4-8 Adapted Communications Model Testing of Perception Dependent Variables for Federal Control of Stages in Hazard Cycle and Homeland Security Process (Odds Ratios and Significance)

	EM Mitigation	EM Preparedness	EM Response	EM Recovery	HS Prevention	HS Protection	HS Preparedness	HS Recovery
<i>Federal Inducements</i>								
Policy Clarity Index	1.04	1.01	1.04	1.03	.980	1.00	1.01	.995
Received One or More Grants	1.10	1.41*	1.00	1.12	1.69***	1.42*	1.36*	1.02
Policy Favors Terrorism	.869	.796	.857	1.18	.844	.839	.806	1.02
<i>Local Inducements</i>								
Participates in One or More Mutual Aid Agreements	.757	1.00	.815	.891	1.28	.966	.906	1.00
Natural Disaster Action Index	.969	.905	1.04	.975	.915	.955	.969	.925
Terrorism Action Index	1.08	1.16	.969	1.06	1.26**	1.02	1.02	1.02

*** p < .01, ** p < .05, * p < .10

Table 4-8 Continued: Adapted Communications Model Testing of Perception Dependent Variables for Federal Control of Stages in Hazard Cycle and Homeland Security Process (Odds Ratios and Significance)

	EM Mitigation	EM Preparedness	EM Response	EM Recovery	HS Prevention	HS Protection	HS Preparedness	HS Recovery
<i>Local Department Capacity</i>								
County	.683	.597*	.745	.540**	.580*	.771	.622*	.708
Dillon's Rule State	1.36	1.13	.970	1.14	1.14	1.14	.987	.854
Increase in Annual Department Budget	1.07	1.47**	1.21	1.07	1.14	1.25	1.31	1.12
Population (log)	.831	.862	.887	1.04	.952	.879	.917	1.07
FEMA Region #4	1.04	1.21	.876	1.12	1.12	.919	1.19	1.31
Increase in FTE Staff Size	.874	.927	.769	1.06	1.01	.887	.735	.937
p	.384	.123	.527	.826	.128	.629	.328	.974
Pseudo R ²	.01	.02	.01	.01	.02	.01	.02	.01
N	474	472	473	474	476	472	472	474

*** p < .01, ** p < .05, * p < .10

The results in Table 4-8 show no significance for any stage using the complete adapted communications model. In only one phase, homeland security prevention, was significance found for the increase in the log odds of the terrorism action index favoring a higher level of importance for federal involvement (assuming all other variables in the model are held constant), even though the full model is not significant. This is a departure from the implementation findings for Hypothesis #1a, where a higher value in the terrorism action index variable had significant odds for exceeding policy demands. Other features within the adapted communications model, such as funding or the type of jurisdiction seem to have a higher degree of impact perceiving the federal government as having a more important role in each stage. This initial testing suggests Hypothesis #1b may be rejected.

However, Table 4-9 continues testing for Hypothesis #1b with respect to perception of control by considering whether local actors perceive actions taken during each stage of the emergency management hazard cycle as favoring federal control. To perform this testing, I combined the findings within each phase listed in Table 3-8 into index variables for each stage by combining the number of times the respondents cited federal (1), state (0), and local (-1) control over the specific actions. Thus, the more times the respondent's cited federal control within each phase of the hazard cycle, the higher the value would be in the respective index variable. Only one hazard cycle stage, response, has statistical significance when considering the entire adapted communications model.

Table 4-9 Adapted Communications Model Testing of Perception Dependent Variables for Federal Control of Functions in Hazard Cycle (Odds Ratios and Significance)

	Mitigation Index	Preparedness Index	Response Index	Recovery Index
<i>Federal Inducements</i>				
Policy Clarity Index	.987	.958	.982	1.01
Received One or More Grants	1.35*	1.12	.825	.998
Policy Favors Terrorism	.925	1.12	.896	1.14
<i>Local Inducements</i>				
Participates in One or More Mutual Aid Agreements	1.39*	1.10	1.15	1.03
Natural Disaster Action Index	.926	1.01	.799***	.915
Terrorism Action Index	.925	.855*	.910	1.01
<i>Local Department Capacity</i>				
County	.801	.697*	.781	.895
Dillon's Rule State	.857	1.35*	1.35	1.18
Increase in Annual Department Budget	.879	.943	1.24	.866
Population (log)	.960	.931	.869	.928
FEMA Region #4	1.07	1.45*	1.10	1.25
Increase in FTE Staff Size	1.27	.978	.878	1.01
p	.299	.157	.016	.917
Pseudo R ²	.01	.01	.02	.04
N	482	482	482	482

*** p < .01, ** p < .05, * p < .10

The lack of statistical significance for that actions taken with three of the four phases of the hazard cycle using the adapted communications model, along with the findings for the stages as a whole, suggests that Hypothesis #1b should be rejected. Although, in the response category of Table 4-9, the use of natural disaster tools is found to have significant log odds, but for local control over response actions, not federal since the odds ratio is less than 1. This finding confirms the expectations of Hypothesis #1b for the recovery stage at least. However, given the overall lack of significance, I cannot fully accept the hypothesis.

Overall Analysis and Discussion of Theory

Testing of the first hypothesis produced mixed results. With regards to implementation (Hypothesis #1a), the hypothesis was rejected due to the effects demonstrated by those who took part in terrorism related operations before the September 11 attacks. This suggests jurisdictions that recognized terrorism as a threat to their jurisdiction had greater odds of exceeding the federal policy implementation guidelines. However, what remains unclear is if these jurisdictions followed through with implementation because of having these operations in place already, meaning the new policies may have required no real changes on their part in daily operations. Despite the fact that they reported compliance with the basic policy implementation demands (NIMS and ICS), managers are not taking the next steps in complying with federal demands by meeting the basic standards set forth by recognizing an enhanced federal role within the phases of the CEM hazard cycle and homeland security process. This could occur for a variety of reasons, including those suggested by researchers in the emergency management field who claim the new policies do not align with traditional CEM principles. The local managers could simply work with the

federal actors to claim “exceeding implementation requirements” of the overall policies, but then use these policies in ways that meet their own benefit, and not that of the federal government and the policy’s expectations.

Finding a lack of significance for the entire model when testing for the perception of control over stages and actions in emergency management and homeland security (Hypothesis #1b), suggests that these local actors may not be meeting all federal demands, and continuing on their own path, while incidentally complying with select federal policy demands along the way, such as those measured by the implementation variables of interest in the study. Perhaps the local actors feel as if the federal prescriptions for such behaviors are not fully aligned with their older compacts or strategies, and use the new policies in a supplementary role, if not outright ignoring them, when performing these traditional CEM-based tasks (hence the support from those who performed terror related actions before the September 11 attacks). Such actions by local departments would relegate the federal government to an assistance role, and not one in providing additional centralized methods and control as the policies demand. The next hypothesis tests whether the receipt of funding enhances the local department’s odds in complying with these federal policy demands, in spite of the findings demonstrated by this hypothesis.

Hypothesis #2 Testing – Grant Receipts

Overview

Hypothesis #2 addresses the idea of coercion in policy implementation practices, through the use of grant funding, an effect from the “federal inducements” stage of the adapted communications model. With locals having a greater likelihood of implementing federal policies when they have experience with terror practices, and perception of control over stages and actions not following through with federal expectations, I anticipated that the federal government must coerce such behavior out of the local departments in order to gain their compliance with federal policy demands. Money, in the form of federal grant funding, is expected to be the driving factor supporting this hypothesis. The second hypothesis takes the following form:

Hypothesis #2a: A greater number of reported federal grants received by the local department will result in a greater level of reported federal policy implementation.

Hypothesis #2b: A greater number of reported federal grants received by the local department will result in a greater level of perceived federal control.

The second hypothesis has its root in coercive federalism and emergency management literature. A local organization's non-compliance with federal policy demands would mean that they risk losing the federal grants for disaster mitigation and preparation considered in this study. These coercive features may leave little-to-no flexibility for local actors, which means those in charge of local efforts could question the policy's necessity in the event that the new policies alter traditional actions that the department takes (May and Burby 1996; May et al. 1996; Hill and Hupe 2003). But coercion is nothing new in the policy arena, and

these dollars could make a dramatic difference to local emergency management operations, forcing the actors to comply, even if it is in a begrudging fashion. Of course, these actors could attempt to skirt by, doing whatever the minimum is necessary to claim compliance (as demonstrated in the previous hypotheses), and continue to receive funds. Either way, this funding is expected to make a significant impact on the local jurisdiction's decision to implement federal policy demands, and cite the importance of the federal government in the CEM hazard cycle stages and phases of the homeland security process.

Implementation Analysis

Table 4-7 shows a lack of significance for the receipt of grants across training and mutual aid for all three policies of interest. This suggests that Hypothesis #2a should be rejected. I find it very surprising that the local administrators, in a stereotypically cash-strapped field, would not be influenced by (or the odds are not significant in support of) the direct threat of revenue loss that the policies of interest require when local jurisdictions do not comply with federal policy demands. Clearly, differences exist between the goal of the policies and how they are being interpreted and administered at the local level. Local actors, perhaps unsurprisingly, continue to want their own flexibility and control over the events in their organization and jurisdiction. This is a strong reaction against the command and control structure cited in the federal policies, and places the usefulness of policy's centralization features at great risk.

Perception Analysis

When testing of the adapted communications model for perception across the hazard cycle stages and homeland security phases (Table 4-8), the receipt of grants had a statistically significant increase in the log odds for federal control over the actions of three homeland security phases (all except recovery), and one stage of the hazard cycle (preparedness). However, none of the models were statistically significant in whole, which limits the usefulness of these findings, as well as the importance of grants upon the perception of control over the various emergency management stages/actions and homeland security phases.

Upon deeper examination of perception of control, only for actions related to mitigation had a statistically significance increase in the log odds for federal control using the entire adapted communications model. But, that iteration of the adapted communications model was not wholly statistically significant either. When looking at response, which produced a significant model, the odds ratio for grants was not significant. The overall lacks of significance in these results suggest that Hypothesis #2b should be rejected, and that the effects from coercion in this policy field are strongly limited.

Overall Analysis and Discussion of Theory

The findings calling for the rejection of this hypothesis highlight the importance of terror related CEM practices/tools as a driving factor for implementation as seen in Hypothesis #1. Local officials either are passive about the policy's threat to remove funding, or are finding a way to use the policy for what it is worth, by claiming implementation of the

federal requirements, but not necessarily by-and-large doing anything more than the bare minimum to implement or to alter their previous plans for a disaster. If the local actors feel there is limited oversight leading to a lack of any tangible coercive threat (Stoker 1991), or the roles for each level of government within the process are not clear, then why alter the process that has worked in the past until some event, or some form of clarity and oversight, forces a change to the system? The next, and final hypothesis considers the clarity of the policy and its effects on implementation and perception of control; which may finally tease out the effects from local departments, and their willingness or effort to only nominally comply with federal policy demands.

Hypothesis #3 Testing – Federal Policy Clarity

Overview

Goggin et al. (1990) initially suggested that the clarity of the federal policy's language and expectations as perceived by respondents can have a significant effect on whether local jurisdictions comply with implementing the policy's requirements, as well as their perceiving a greater role for the federal government in the CEM hazard cycle and stages of the homeland security process. Hypothesis #3 tests this idea, and takes the following form:

Hypothesis #3a: A greater reported level of federal policy clarity will result in a greater reported level of federal policy implementation.

Hypothesis #3b: A greater reported level of federal policy clarity will result in a greater level of perceived federal control.

My study uses the reported clarity of NIMS and ICS in an index measurement as the dependent variable for testing this hypothesis. Goggin and his colleagues (1990) cited clarity as the driving factor behind implementation when the policies included clear, consistent, and flexible expectations and requirements. Several researchers claim the policies as designed and mandated by the federal government since the September 11 attacks are too focused on terrorism, and lack the inherent flexibility for disaster response that was a trademark of CEM (Waugh 2006; Esinger 2004; McEntire 2004; Haddow 2005; Schneider 2005; Lester and Krejci 2007; Takeda and Helms 2006; Wise 2002; Newman 2002; Nicholson 2007; Department of Homeland Security 2008; Birkland and Waterman 2008; Edwards 2007). The third hypothesis tests the claims made by these researchers, which focuses on another effect from the “federal inducements” phase of the Communications Model (Goggin et al. 1990), as was the case with the pervious hypothesis.

Implementation Analysis

Within the testing of the adapted communications model (Table 4-7), policy clarity was found to be significant for all iterations of the adapted communications model with respect to federal control over policy implementation. The findings affirm Hypothesis #3a, along with the importance of policy clarity as cited in Goggin and his colleague’s (1990) study. The findings are also consistent with emergency management literature claims that the policies as designed and mandated by the federal government since the September 11 attacks are too focused on terrorism, and lack the inherent flexibility for disaster response that was a trademark of CEM. But, the congruence with claims by other researchers may or may not be wholly due to effects from reported clarity of the policies, but also from the

consideration of terrorism as a threat to a jurisdiction, and taking actions to prepare for such potential events before the September 11 attacks, as illustrated in the findings for Hypothesis #1.

Perception Analysis

As was the case with the Hypothesis #2b, the lack of significance for the adapted communications model as a whole downplays the effects of policy clarity on the perception of control over stages of the emergency management and homeland security process, and specific actions within the hazard cycle, calling for the rejection of Hypothesis #3b. These findings stem from the traditional view that local managers seem to have within the emergency management process: that local actors are willing to take on additional functions when they deem necessary, or maintain their control over actions that traditionally had been their own in an effort to better prepare their community.

Overall Analysis and Discussion of Theory

Overall, the rejection of the perception phase of testing (Hypothesis #3b) while affirming the importance of clarity when testing for implementation of policy (Hypothesis #3a) suggests that the field of emergency management does not completely follow the findings of previous public administration literature in regards to the reported clarity of policy as a motivating factor in federal policy compliance (Goggin et al. 1990). Managers see portions of the policies, and may feel it is “clear”, but that does not spur total compliance with policy expectations. With emergency management being chaotic by nature, and actors needing to not only plan for hazards, but also respond to a myriad of different events should

they occur in the community, the managers may look for outlets to use federal policies and assistance when necessary, but only nominally comply with the full degree of federal requirements until absolutely necessary. In the meantime, a new policy that is more flexible, less standardized, and more beneficial to the actions and needs of the jurisdiction may replace the existing federal policy. Thus, even if the federal policy is “clear” (a fungible term itself) it does not mean that the requirements are something that will promote harmony between the layers of government or provoke local actors to follow through with the policy demands, unless there is some specific gain in, or the actor has experience to do so. Simply reporting “implementation” of the policy by the local department may be good enough to meet federal demands and keep the policy’s benefits flowing if the oversight from above is not thorough, even if the actor plans to maintain control over the actions preparing for and responding to all kinds of incidents.

Summary

Table 4-27 reviews the results from testing each hypothesis for implementation and perception. For implementation of policy, only the third hypothesis was accepted, while for perception of control, only the first hypothesis was affirmed, albeit in a partial manner.

Table 4-10 Overall Results of Hypothesis Testing

Hypothesis	Implementation – “a” Hypotheses	Perception – “b” Hypotheses
#1: CEM “Tools”	Rejected	Partially Accepted
#2: Grants	Rejected	Rejected
#3: Policy Clarity	Accepted	Rejected

More than anything else, the local department’s desire to maintain control over the activities before, during, and after a disaster was evident when reviewing the results from hypothesis testing. Actors at the local level seem to expect the federal government’s support and involvement in the late phases (recovery in the hazard cycle) of the disaster relief process but not throughout the process, as the federal policies suggest. The experience managers have with CEM practices and working with the federal government may be the reason why local actors are nominally complying with the federal policies. With coercion and policy clarity having no real influence on the local actors perceiving federal control over emergency management and homeland security actions, the local actors are treating these policies like a bump in the road, or perhaps like something to be called upon only when provisions really benefit them directly, just as Neal and Webb (2008) found in Louisiana after Katrina.

CHAPTER 5: CONCLUSIONS AND FUTURE RESEARCH

Introduction

The findings from this study shine a light on the current state of emergency management and homeland security in the United States. Respondents to the survey continue to plan around hazards and prepare for disasters in their jurisdictions, while also using federal policies in ways that would best assist their actions. However, the federal policies were not explicitly designed for an assistance role, as was primarily the case prior to the September 11 attacks. This split between the layers of government and the federal policy requirements sets up the potential for a chaotic system, impairing any positive impact towards improving the ability for all actors and agencies to coalesce when preparing for, and in responding to disasters of all kinds. Ultimately, such an outcome raises a significant question; what was the point of the policies, aside from political gain, for providing some type of “response” to the September 11 attacks?

Summary of Findings

This study examined how local emergency managers perceive the influence of federal mandates on their daily responsibilities in the post-September 11 and post-Katrina policy system in an attempt to address one broad research question regarding contemporary emergency management:

What local factors and emergency management practices, and what federal policy demands, predict the implementation practices of local emergency management departments?

To answer this question, I proposed three hypotheses stemming from contemporary policy implementation and emergency management literature. The results of quantitative testing in Chapter 4 showed that the federal policies had only a limited effect on enhancing, standardizing, and centralizing the system of emergency management under federal control before, during, and after disastrous incidents of all varieties. These findings run contrary to certain mainstream policy implementation theories, which cite funding (in the form of federal grants) as guiding factors for local government implementation of federal policy demands. However, additional theories that cite the need for clarity and even flexibility in policy language and actions taken by local actors to implement other contemporary federal policies, such as welfare reform in the late 1990s, are reaffirmed as the local emergency management actors drag their feet while implementing the new policy and recognizing federal control over the emergency management and homeland security temporal process. Starting with hypothesis #1, the study uncovers nominal compliance of federal policy demands occurring by-and-large to varying degrees throughout the emergency management field. The study considers how the use of training, drills, and collaborative efforts as measurements of standard CEM practices used before and after the September 11 attacks function as measurements of local inducements hindering policy implementation. I assumed those who used such methods for an extended period (measured as prior to the September 11 attacks) would be resistant to greater federal influence in the emergency management process, and would thus resist fully implementing federal policy demands or accepting a greater federal role in actions or phases of the homeland security process and hazard cycle.

Hypothesis #1a: The higher the reported level of use of standard emergency preparedness practices (“tools”), the lower the reported level of federal policy implementation.

Hypothesis #1b: The higher the reported level of use of standard emergency preparedness practices (“tools”), the lower the level of perceived federal control.

Testing for this hypothesis found that long-term use of the CEM features related to terrorism did not dissuade organizations from implementing the federal policy demands. Indeed, conducting terrorism related activities produced a significant odds ratio in favor of NIMS and ICS implementation as part of the adapted communications model. These results suggest that actors continue to promote local initiatives stemming from the basic fundamentals of CEM and its all-hazards philosophy where and when terror was deemed a threat prior to the September 11 attacks, and not from the new policy demands. Furthermore, when considering perception of control over each stage of the hazard cycle and homeland security process, as well as actions within each phase of the hazard cycle, significance emerged only for actions within the response phase.

Such a disparity in local operations and federal policy demands within the stages of homeland security and the hazard cycle could add to the confusion among local emergency managers about their need to include themselves in such policy measures that address terrorism specifically, rather than under the broad spectrum of CEM. Although, these findings do mesh with Caurson and Macmanus' (2006) claim by suggesting that local governments which are progressive in the field of disaster management will continue to seek a more active role in emergency management policy control themselves, including functions

related to homeland security, as a part of an all-hazards philosophy that conforms to CEM principles, and not as a response to federal policy demands. Local emergency management professionals with experience in CEM strategies and the “tools” of the trade may resent both the centralization of control and policy language that requires them to relinquish control over areas or to rethink methods for local disaster management that proved successful in the past. However, these actors realize there could be something to be gained by at least reporting implementation of the federal policy demands, even if complying in a nominal fashion by not following through with all of the policy’s expectations (such as federal control over actions).

Many researchers claim the new federal disaster management policies lack flexibility in implementation expectations, and there is limited cohesion among the layers of government, actors, and interests involved (Waugh 2006; Esinger 2004; McEntire 2004; Haddow 2005; Schneider 2005; Lester and Krejci 2007; Takeda and Helms 2006; Wise 2002; Newman 2002; Nicholson 2007; Department of Homeland Security 2008; Birkland and Waterman 2008; Edwards 2007). Assuming these researchers are correct, my study asserted that something else must spur policy implementation. Some scholars argue that conflicts between federal, state, and local levels of government increase when the number of federal mandates increases without associated funding (Gormley 2006). The second hypothesis tested for any effect that coercion, in the form of grant funds, had over the decision to implement the new federal policies, as well as cite a greater federal role in the hazard cycle and homeland security process.

Hypothesis #2a: A greater number of reported federal grants received by the local department will result in a greater level of reported federal policy implementation.

Hypothesis #2b: A greater number of reported federal grants received by the local department will result in a greater level of perceived federal control.

Testing revealed that respondents did not cite the receipt of grant funding as a significantly enhancing the log odds of policy implementation by the landfall of Katrina, or the enhanced perception of a federal role within the hazard cycle or homeland security process. These findings ran counter to my expectations that actors in a cash-strapped field would not want to risk any funding by not following through with federal guidelines. However, the findings reiterate a major issue with theories related to coercion in government. Specifically, while the language may suggest that grant funding for specific projects are at risk in areas that do not comply, is the federal bureaucracy upholding such threats, or would political actors even allow the bureaucracy to eliminate such funding for projects within local districts? If such a threat is not tangible, and actors can simply report implementation of the policies with seemingly little threat of reprisal, while concurrently using the funds for specific projects or as part of their budget to respond to local demands (that may or may not be in line with federal policy demands), then the local manager may not be experiencing the full effects of coercion.

The third hypothesis addressed what Goggin and his colleagues (1990) considered to be the most significant predictive factor in their original Communications Model. Not understanding the language of federal policy demands could work against the federal governments' efforts towards centralization. With the policies cited by many as favoring terrorism-preparedness training disproportionately at the expense of traditional emergency management functions, local actors may feel pressure to dedicate additional resources to

activities which support federal policy implementation, particularly if terrorism was not a concern in that jurisdiction prior to the September 11 attacks (Waugh 2006; Esinger 2004; McEntire 2004; Haddow 2005; Schneider 2005; Lester and Krejci 2007; Takeda and Helms 2006; Wise 2002; Newman 2002; Nicholson 2007; Department of Homeland Security 2008; Birkland and Waterman 2008; Edwards 2007).

Hypothesis #3a: A greater reported level of federal policy clarity will result in a greater reported level of federal policy implementation.

Hypothesis #3b: A greater reported level of federal policy clarity will result in a greater level of perceived federal control.

As with the first hypotheses, testing revealed very significant log odds effects from policy clarity on the implementation of federal policy demands, but not during each phase of the hazard cycle and homeland security process. These findings reaffirm the claims from Goggin and his colleagues (1990) regarding the importance of policy clarity. But, once again these findings support the notion that local emergency management officials are only nominally complying with the implementation of federal policy demands. By implementing at least a small portion of the federal policy, the local actors could claim compliance, and keep the benefits stemming from the policy even if they use such benefits to address their own local needs. If little-to-no oversight exists from the federal level with regards to the use of funding (or the threat of its elimination), do the full effects of the policy and its language (meaning crossing all hurdles for compliance) really matter, or can one simply claim to understand and comply with the policy demands? Or are these managers simply seeking to maximize their own responsibility using all potential means from within the policy to their own advantage,

and thereby enhance their efforts to prepare for and respond to potential hazards within their jurisdiction, just as they did prior to the September 11 attacks with counter-terror or natural disaster operations?

The findings from these hypotheses bring the study back to the initial research question. Clearly there seems to be a disparity between the actions of those respondents in the field at the local level and the expectations of the federal government as they are explained by the new policy. Managers who continue to emphasize their own role within the field, and use federal programs as a means to assist the local actions, but do not cede responsibility to federal requirements or demonstrate any dramatic change in their daily operations continue to limit efforts to centralize disaster management under federal control. This suggests that local managers perceive terrorism as just another hazard for which a community must prepare as part of the traditional CEM methodology, and does not garner the special attention that federal policy seeks as terrorism falls low on the perceived list of local threats to some jurisdictions during a risk assessment. These findings also reiterate those of Neal and Webb (2007) and Sobel and Lesson (2006) who found local managers working in jurisdictions directly affected by Hurricane Katrina reverting to their longstanding methods when not working with federal actors. The findings suggest a similar reaction could occur nationally in preparing for and responding to a disastrous incident, as local actors do not follow through with all federal policy demands in the way that my hypotheses and previous implementation studies suggested and as the new federal policies since the September 11 attacks desire.

Implications for Research and Practice

The findings from this study provide significant inferences stemming from, and adding to pre-existing descriptions of practice and theories in the field of emergency management and public administration. To begin, the study adds the field of emergency management into contemporary studies of policy adoption and implementation using the third-generation communications model. The findings using emergency management variables produce different results from previous policy studies, downplaying the significance of policy clarity or the size of the organization (Goggin et al. 1990; Lester and Bowman 1989) but also advancing the importance of local flexibility demonstrated in welfare policy studies by Cho and his colleagues (2005), with managers finding their own outlets to address local issues, even if the policy does not contain the same sort of permissive language. The study also demonstrates how conflict can occur when policies include several new mandates without accompanying funding (Gormley 2006) although money itself was not a significant factor in policy implementation as suggested by coercive theories (Posner 2007; Stoker 1991; Conlan 1991). Local actors continue on their own path, and may feel somewhat alienated by the mandates that ignore standard CEM principles for the promotion of homeland security principles focusing on terrorism almost exclusively, unless they have some experience in preparing for terrorism locally (Hill and Hupe 2003). Otherwise, without support from key stakeholders buying into, or perceiving any real shift within the emergency management field, implementation of federal policy expectations remains sporadic among survey respondents (Albert et al. 2003).

In the field of emergency management, this study adds additional support to previous studies which suggest a disparity exists between local actors and federal policies demand, and specifically points to the federal policy language which downplays CEM practices as a major issue (Waugh 2006; Waugh 2008; Esinger 2004; McEntire 2004; Haddow 2005; Schneider 2005; Waugh & Sylves 2002; Birkland 2008; Birkland 2009; Somers and Svara 2009; Tierney 2006; Demchak 2002; Scavo et al. 2008; Hite 2006; Liebermann et al. 2006; Edwards 2007; Chertoff and Paulison 2008; Gerber and Robinson 2009). These differences may explain not only what occurred after Katrina, an area already studied by Neal and Webb (2007) but could explain present and future issues between local managers and FEMA demand since a similar attitude among emergency managers was present beyond Louisiana (Neal and Webb's focus). Future research can focus on not only the gap between federal and local actions, but also what role FEMA and the DHS take in an effort to enhance centralization and forge the necessary relationships that would promote centralization and strengthen federal input into disaster preparedness and terror prevention.

However, one of the implications from this study is that the dataset was not perfectly suited to the research questions. The complex system of policy-making and implementation makes anything but simplistic models impossible. The results from the survey were not completely clear why some fully comply and others do not, only that nominal compliance seems to occur. The study does not provide specifics into what some organizations did using CEM principles beyond the general reporting of such actions by survey respondents, and the quantitative usefulness of several variables are hindered by their limited normality or low response rate. A qualitative study of one/several organizations that reported compliance may

shed further insight into the research question regarding the use of federal policy demands. Although, in the days leading to and since the landfall of Hurricane Irene on the East Coast in the late summer of 2011, several governors (via press conferences) implored local government officials to follow federal and state plans and not to freelance preparation efforts; just another example of local actors seemingly continuing to play the game using their own playbook.

Directions for Future Research

As I fielded the survey in 2008, a new federal policy, the National Response Framework (NRF), came online as an update to the NRP in response to the events before, during, and after the landfall of Hurricane Katrina in 2005. The NRF re-emphasizes coordination and integration of capabilities between all layers of government, as well as the general public, and any private businesses and non-profit organizations involved in any stage of the hazard cycle. The plan also seeks to enhance coordination between emergency management and homeland security operations, especially since local actors are still limited in intelligence gathering and incidence response to terrorist events (Kapuçu 2009). However, as opposed to the perceived federal dominance that existed in the NRP, the NRF claims to take a “national” focus by soliciting input from key stakeholders throughout the nation, and expressing in clear language the role of the DHS (Lindsay 2008). But, the terrorism focus remains win the NRF, which seemingly continues to move against the prevailing themes from CEM and an all-hazard approach. As such, it remains uncertain as to whether the NRF

is really any update from the NRP, and if it contains a feasible plan for coordinating response as it desires (Comfort et al. 2010). Obviously, with the NRF being in place for over three years, comparing its effects on local managers as an update to this survey would be a fertile means for research. A follow-up survey may produce similar results, which could clarify questions about the NRF and its differences (or lack thereof) from its predecessor.

Shortly after the survey was initially fielded in 2008, the nation experienced one of the worst economic downturns since the Great Depression. State and local government budgets continue to be stretched thin as a growth in demand for, and the cost of services continues as the economy strains to recover. A 2009 DHS report cites “a resurgence in rightwing extremist recruitment and radicalizations activity” caused by home foreclosures, job losses, and the historical presidential election. While detractors see the report as a political hit-piece, an underlying anti-government sentiment in the nation is real, and not entirely new as evidenced by the Oklahoma City bombing in 1995 (among other events in our nation’s history). Additionally, the Transportation Security Administration (TSA) continues to garner headlines with its enhanced methods for interrogation, which could arguably be noted as an invasion of privacy that passengers are forced endure when attempting to use the commercial aviation system (and perhaps additional modes of transit in the not-to-distant future). It will be interesting to see how the continued debt crisis, and fights over state and local policy budgets have an effect upon the direction of emergency management, and operations designed to fight terrorism. This could range from a reshuffling of DHS to an elimination of the Patriot Act, to a backlash against building regulation, let alone the general operation budgets for supplies of emergency management departments.

Local backlash against the enhancements in action by the TSA and DHS at large could not only spur some states to seek their own means to handle terror prevention or limit the behavior of bureaucratic actors (such as an attempt in Texas and other states to limit TSA protocols), but also limit the desire for enhanced centralization of disaster preparedness sought by DHS since its creation.

Finally, in the early spring of 2011 a major earthquake struck the nation of Japan. The frightening images of the quake, followed by a tsunami that wiped seaside towns from the map, and an ongoing nuclear crisis has had the full attention of our nation. In the time immediately following the news, effects were seen on the west coast from a small tsunami, but mostly from a panic regarding potential nuclear fallout, and what a similar event could mean for citizens of the United States if/when the “big one” hits the California coast, or other fault lines throughout the nation. Floods in the US Midwest during the summer of 2011 may also have had an impact on nuclear power generation facilities, showing their potential vulnerabilities. All of these concerns, along with the BP oil spill in 2010 could collectively serve as a “focusing event” (Kingdon 1995; Birkland 1997) leading the nation to rethink its energy strategy, as well as how we prepare for and minimize the impact from natural and man-made disasters at-large in an effort to protect all means of critical infrastructure.

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APPENDIX

Appendix A – Key Terms

Key Term in Emergency Management & Homeland Security	Definition
Mitigation	The sustained effort to reduce loss of life and property by lessening the influence of disasters, and effects from hazards in a community. This is achieved through risk analysis and management techniques that produce information and provide a foundation for activities that reduce, deflect, or altogether avoid possible impacts. (Federal Emergency Management Association, Haddow and Bullock 2005, Gordon 2002).
Preparedness	Preparing for disasters involves using all available resources, skills, and individuals available to a jurisdiction in the time leading up to a disastrous incident in order to reduce its anticipated impact, and respond to its occurrence as efficiently as possible. This stage focuses more on the functional aspects of emergency management, whereas its predecessor focuses on longer-term and broader actions, such as creating a “disaster resistant” community. (Haddow and Bullock 2005, Gordon 2002)
Response	Once a disaster occurs, government officials from all levels must be able to respond to the needs of the public as swiftly as possible. Response to such situations may be fragmented due to the diverse needs of those affected by the events, the actors involved with responding, and the various plans developed during the preparedness phase that automatically deploy in such situations. (Drabek 1985, Kweit and Kweit 2006, Tierney et al. 2001, Haddow and Bullock 2005, Gordon 2002).
Prevention	Prevention of terrorist acts begins with the amassing of information about such incidents through the use of the law enforcement or other covert systems within the government.
Protection	Protecting sensitive targets from possible attacks. This involves strengthening preparation and response efforts as well as critical infrastructure (such as sensitive targets and government personnel abilities) in the event of such an incident (Institute for the Economy and Future 2006).
Recovery	In the time following any disaster, recovery focuses upon the community’s ability to return to its pre-disaster state of normalcy, and encourage economic growth. The continued provision of services normally provided by governments, as well as special services related to the disaster are key factors to a successful recovery effort (Gordon 2002).

Appendix B – Frequency Tables and Descriptive Statistics for Constructed Variables

Table B-1: Frequencies for Policy Clarity Index Independent Variable (Federal Inducement Stage of the Adapted Communications Model (n=543))

0	1	2	3	4	5	6	7	8	9	10
61	1	16	2	18	6	34	8	106	36	255
(11.2%)	(0.2%)	(2.9%)	(0.4%)	(3.3%)	(1.1%)	(6.3%)	(1.5%)	(19.5%)	(6.6%)	(47%)

Mean = 7.59, Standard Deviation = 3.34

Table B-2: Frequencies for Natural Disaster Index Independent Variable (Local Inducement Stage of the Adapted Communications Model (n=543))

0	1	2	3	4
71	40	56	147	229
(13.1%)	(7.4%)	(10.3%)	(27.1%)	(42.2%)

Mean = 2.78, Standard Deviation = 1.40

Table B-3: Frequencies for Terrorism Index Independent Variable (Local Inducement Stage of the Adapted Communications Model (n=543))

0	1	2	3
368	48	60	67
(67.8%)	(8.8%)	(11%)	(12.3%)

Mean = 0.68, Standard Deviation = 1.09

Table B-4: Frequencies for Hazard Cycle Stages Index Dependent Variables (n=543)

	-4	-3	-2	-1	0	1	2	3	4
Mitigation Index (Mean = -1.83, St. Dev. = 1.52)	85 (15.7%)	125 (23%)	108 (19.9%)	98 (18%)	102 (18.8%)	20 (3.7%)	3 (0.6%)	1 (0.2%)	1 (0.2%)
Preparedness Index (Mean = -2.29, St. Dev. = 1.57)	163 (30%)	114 (21%)	105 (19.3%)	66 (12.2%)	78 (14.4%)	11 (2%)	2 (0.4%)	3 (0.6%)	1 (0.2%)
Response Index (Mean = -3.02, St. Dev. = 1.35)	294 (54.1%)	101 (18.6%)	72 (13.3%)	23 (4.2%)	51 (9.4%)	1 (0.2%)	0	0	1 (0.2%)
Recovery Index (Mean = -1.93, St. Dev. = 1.58)	117 (21.5%)	97 (17.9%)	123 (22.7%)	79 (14.5%)	104 (19.2%)	16 (2.9%)	5 (0.9%)	0	2 (.4%)

Appendix C – Cut Points and Proportional Odds Testing for Each Hypothesis

Table C-1: Implementation Dependent Variables

	Cut Point #1	Cut Point #2	Proportional Odds Testing
ICS Training	-1.29	3.00	.249
ICS Mutual Aid	-1.28	2.55	.145
NIMS Training	-0.66	3.55	.029
NIMS Mutual Aid	-1.85	2.06	.010
NRP Training	0.98	4.74	.440
NRP Mutual Aid	0.69	4.34	.830

Table C-2: Federal Stage Control Dependent Variables

	Cut Point #1	Cut Point #2	Cut Point #3	Cut Point #4	Proportional Odds Testing
EM Mitigation	-7.25	-5.64	-2.61	-1.06	.057
EM Preparedness	-5.99	-2.60	-1.23	NA	.036
EM Response	-5.47	-2.23	-0.98	NA	.842
EM Recovery	-4.22	-2.11	-0.63	NA	.944
HS Prevention	-5.57	-2.57	-1.37	NA	.014
HS Protection	-5.13	-2.56	-1.28	NA	.854
HS Preparedness	-6.97	-5.35	-2.80	-1.35	.991
HS Recovery	-6.32	-4.52	-2.32	-1.04	.454

Table C-3: Federal Function Control Dependent Variables

	Cut Point #1	Cut Point #2	Cut Point #3	Cut Point #4	Cut Point #5	Cut Point #6	Cut Point #7	Cut Point #8	Proportional Odds Testing
Mitigation Index	-2.14	-0.86	-0.05	0.80	2.68	4.19	5.12	5.81	.839
Preparedness Index	-1.52	-0.62	0.25	1.00	2.91	3.96	4.18	5.58	.003
Response Index	-1.41	-0.53	0.40	0.80	4.03	4.73	NA	NA	.848
Recovery Index	-1.75	-0.89	0.06	0.79	2.83	4.14	5.07	NA	.000

Appendix D - Survey Instrument

Instructions: Please answer the following questions as thoroughly as possible. When answering these questions, please keep the following definitions in mind:

Homeland Security: Efforts to prevent, prepare for, and recover from terror related incidents specifically.

All-Hazards: Efforts to prepare for and recover from any natural, accidental, or purposeful disasters, such as hurricanes, industrial accidents, or acts of terrorism.

Disasters: Non-routine emergencies that result from natural or man-made consequences and overwhelm local response and recovery capabilities, requiring additional assistance.

Thank you once again for your time and for sharing your thoughts!

1) During what time period did your organization use the following training techniques? Please select as many as applicable.

	Before September 11, 2001	Between September 11, 2001 and August 30, 2005 (Katrina)	After August 30, 2005	Have Not Undertaken This Activity	Unsure
Training for natural disaster preparation	☐	☐	☐	☐	☐
Training for immediate natural disaster response	☐	☐	☐	☐	☐
Training for long-term natural disaster recovery	☐	☐	☐	☐	☐
Training for immediate response to a terrorist incident	☐	☐	☐	☐	☐
Training for long-term recovery from a terrorist incident	☐	☐	☐	☐	☐
Training for potential terrorist attacks	☐	☐	☐	☐	☐

[illegible]

3) Does your organization's training activities meet/exceed the standards set forth by the following federal policies?

	Our Training Activities Exceed the Demands of This Federal Mandate	Our Training Activities Meet the Demands of This Federal Mandate	Our Training Activities Do Not Meet the Demands of This Federal Mandate	Unsure
Incident Command System (ICS)	☐	☐	☐	☐
National Incident Management System (NIMS)	☐	☐	☐	☐
National Response Plan (NRP)	☐	☐	☐	☐
National Response Framework (NRF)	☐	☐	☐	☐

4) During what time periods did your organization use the following performance measurement techniques, such as goal setting or personal achievement standards? Please select as many as applicable.

	Before September 11, 2001	Between September 11, 2001 and August 30, 2005 (Katrina)	After August 30, 2005	Have Not Undertaken This Activity	Unsure
Performance measurements for disaster preparation in general	☐	☐	☐	☐	☐
Performance measurements for immediate natural disaster response	☐	☐	☐	☐	☐
Performance measurements for long-term natural disaster recovery	☐	☐	☐	☐	☐
Performance measurements for immediate terror related incident response	☐	☐	☐	☐	☐
Performance measurements for long-term terror related incident recovery	☐	☐	☐	☐	☐

5) During what time periods were the following emergency management activities part of mutual aid agreements with neighboring local jurisdictions (towns, counties, special districts) only? Please select as many as applicable.

	Before September 11, 2001	Between September 11, 2001 and August 30, 2005 (Katrina)	After August 30, 2005	Do Not Have Formal Mutual Aid Agreements for This Activity	Unsure
Evacuation	☐	☐	☐	☐	☐
Health care facility protection	☐	☐	☐	☐	☐
Communication capacity	☐	☐	☐	☐	☐
Linkage of technology infrastructure	☐	☐	☐	☐	☐

Critical physical infrastructure protection (large buildings, government facilities, etc.)	☐	☐	☐	☐	☐
Media relations (creating formal relationships with local outlets)	☐	☐	☐	☐	☐
Public information efforts (disseminating information before disasters strike and during times of crisis)	☐	☐	☐	☐	☐

6) Do you understand the mutual aid related responsibilities for your organization as defined by each of the federal mandates?

[illegible]

(ICS)						
National Incident Management System (NIMS)	☐	☐	☐	☐	☐	☐
National Response Plan (NRP)	☐	☐	☐	☐	☐	☐
National Response Framework (NRF)	☐	☐	☐	☐	☐	☐

7) Does your organization's mutual aid activities meet/exceed the standards set forth by the following federal policies?

	Our Mutual Aid Activities Exceed the Demands of This Federal Mandate	Our Mutual Aid Activities Meet the Demands of This Federal Mandate	Our Mutual Aid Activities Do Not Meet the Demands of This Federal Mandate	Unsure
Incident Command System (ICS)	☐	☐	☐	☐
National Incident Management System (NIMS)	☐	☐	☐	☐
National Response Plan	☐	☐	☐	☐

(NRP)				
National Response Framework (NRF)	☐	☐	☐	☐

8) Does your jurisdiction have separate agencies or organizations charged with addressing natural disasters and homeland security preparedness, response, and recovery, or are these two functions in the same organization?

Different organizations

Same organization

8a) In which organization are you employed?

Natural Disasters

Homeland Security

Both (Please Explain)

8b) When did this organizational split into specific agencies for homeland security and other disaster management take place?

Between September 11, 2001 and August 30, 2005 (Katrina)

After August 30, 2005

Unsure

PREVENTION	Extremely Important	Very Important	Important	Not Very Important	Not Important At All	Unsure
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[illegible]

[illegible]

[illegible]

[illegible][illegible]

[illegible]

[illegible]

11) What level of government should assume primary responsibility for each of the following activities within the emergency management process? In addition, please indicate your opinion as to which level of government presently actually assumes primary responsibility in these areas?

[illegible]

[illegible]

	Who should assume primary responsibility?			Who actually has primary responsibility?		
PREPAREDNESS	Federal	State	Local	Federal	State	Local
Establish emergency operations centers	☐	☐	☐	☐	☐	☐
Broadcast Trial Emergency Communications in Public Domain	☐	☐	☐	☐	☐	☐
Lead emergency planning efforts	☐	☐	☐	☐	☐	☐
Create emergency warning systems	☐	☐	☐	☐	☐	☐

	Who should assume primary responsibility?			Who actually has primary responsibility?		
RESPONSE	Federal	State	Local	Federal	State	Local

Activate emergency plans	☐	☐	☐	☐	☐	☐
Broadcast Actual Emergency Communications in Public Domain	☐	☐	☐	☐	☐	☐
Mobilize necessary resources	☐	☐	☐	☐	☐	☐
Perform Search and Rescue Operations	☐	☐	☐	☐	☐	☐

	Who should assume primary responsibility?			Who actually has primary responsibility?		
RECOVERY	Federal	State	Local	Federal	State	Local
Perform damage						

assessments	☐	☐	☐	☐	☐	☐
Reassess emergency plans	☐	☐	☐	☐	☐	☐
Staff disaster assistance centers	☐	☐	☐	☐	☐	☐
Assess response performance	☐	☐	☐	☐	☐	☐

12) When did your jurisdiction direct or undertake the following initiatives?

	Before September 11, 2001	Between September 11, 2001 and August 30, 2005 (Katrina)	After August 30, 2005	Have Not Undertaken This Activity	Unsure
Conducted a natural disaster related risk assessment	☐	☐	☐	☐	☐
Conducted a terror related risk assessment	☐	☐	☐	☐	☐
Conducted a natural disaster related drill or exercise	☐	☐	☐	☐	☐
Conducted a terror related drill or exercise	☐	☐	☐	☐	☐
Adopted the national incident management system (NIMS)	☐	☐	☐	☐	☐
Adopted the Incident Command System (ICS)	☐	☐	☐	☐	☐

Flood	☐	☐	☐	☐	☐	☐
Earthquake	☐	☐	☐	☐	☐	☐
Tsunami	☐	☐	☐	☐	☐	☐
Tornado	☐	☐	☐	☐	☐	☐
Land/Mudslide	☐	☐	☐	☐	☐	☐
Other (Please Specify)	☐	☐	☐	☐	☐	☐

13a) How many full time employees were in your department on September 11, 2001?

13b) How many part time employees were in your department on September 11, 2001?

13c) How many full time employees were in your department on August 30, 2005?

13d) How many part time employees were in your department on August 30, 2005?

13e) How many full time employees are presently in your department?

State	☐	☐	☐	☐	☐	☐
Local	☐	☐	☐	☐	☐	☐

14b) If the budget for your organization has decreased, what was the reason for this change?

15) Did your organization receive any of the following federal grants since the September 11 attacks? If yes, please indicate the year your received the grant. If your organization received the same grant multiple times, please say "multiple" in the year column and provide the total amount. If you did not receive, or were not applicable for the grant, please leave it blank.

Grant	Year Received	Amount Received
Buffer Zone Protection Program		
Community Emergency Response Training (CERT)		
Department of Justice Terrorism Grants (Any Applicable)		
Emergency Management Performance Grant		
Flood Mitigation Assistance Program		
Hazard Mitigation Grant Program		
Homeland Security Grant Program		
Incident Command System (ICS)		
Infrastructure Protection Program		
Law Enforcement Terrorism Prevention Program		
National Flood Insurance Program		
National Incident Management System (NIMS)		

National Response Framework (NRF)		
National Response Plan (NRP)		
Port Security Grant Program		
Public Safety Interoperable Communications (PSIC) Grants		
Regional Catastrophic Preparedness Grant Program (RCPGP)		
State Homeland Security Grant Program		
Transit Security Grant Program		
Urban Area Security Initiative Grant Program		
Other (Please Indicate)		
Other (Please Indicate)		
Other (Please Indicate)		

16) Do you understand the funding related responsibilities for your organization as defined by each of the federal mandates?

	The Responsibilities are Completely Clear for My Local Organization	The Responsibilities are Mostly Clear, but Slightly Vague for My Local Organization	The Responsibilities are About Evenly Clear and Vague for My Local Organization	The Responsibilities are Mostly Vague, but Slightly Clear for My Local Organization	The Responsibilities are Completely Vague for My Local Organization	Unsure
Incident Command System (ICS)	☐	☐	☐	☐	☐	☐
National Incident Management System (NIMS)	☐	☐	☐	☐	☐	☐
National Response Plan (NRP)	☐	☐	☐	☐	☐	☐
National Response Framework (NRF)	☐	☐	☐	☐	☐	☐

17) Do you understand the general overall responsibilities for your organization as defined by each of the federal mandates?

	The Responsibilities are Completely Clear for My Local Organization	The Responsibilities are Mostly Clear, but Slightly Vague for My Local Organization	The Responsibilities are About Evenly Clear and Vague for My Local Organization	The Responsibilities are Mostly Vague, but Slightly Clear for My Local Organization	The Responsibilities are Completely Vague for My Local Organization	Unsure
Incident Command System (ICS)	☐	☐	☐	☐	☐	☐
National Incident Management System (NIMS)	☐	☐	☐	☐	☐	☐
National Response Plan (NRP)	☐	☐	☐	☐	☐	☐
National Response Framework (NRF)	☐	☐	☐	☐	☐	☐

18) Which of the following statements about federal emergency management and homeland security policies do you most agree with?

Federal Policies Greatly Strengthened All Hazards Tactics Locally	Federal Policies Have Slightly Strengthened All Hazards Tactics Locally	Federal Policies Have No Effect on All Hazards Tactics Locally	Federal Policies Have Slightly Weakened All Hazards Tactics Locally	Federal Policies Have Greatly Weakened All Hazards Tactics Locally	Unsure
☐	☐	☐	☐	☐	☐

19) In your opinion, do most federal policies since the September 11 attacks disproportionately favor a specific disaster type?

Yes, Natural Disasters

Yes, Terrorism

Yes, Accidental Disasters

No, All Hazards Are Equally Considered Based Upon Risk Assessments

Unsure

19a) Based on your response to the previous question, what impact has the disproportionate focus of federal emergency management policies on a particular disaster type had upon your department?

20) Which of the following best describes the jurisdiction for your organization?

Municipality

County

Special District

State

Other (Please Specify)

21) How many years have you held your current position within this jurisdiction?

22) What is the current estimated population in your jurisdiction?

23) In what state is your jurisdiction located?

24) If you would like a copy of the results from this survey, please provide your e-mail address and I will send you a copy upon completion of the study. Otherwise, please leave blank.

Appendix E – Model Independent Variable Explanation

Variable Name	Definition of Variable
<i>Federal Inducements</i>	
Policy Clarity Index	Combined measurement of reported NIMS and ICS clarity. A higher value indicates a greater degree of reported clarity for actions required by each policy for training and mutual aid.
Grant Receipts	The reported number of key grants received by the survey respondent.
Policy Favoritism	The reported perception of the federal policy demands focus in disaster management.
<i>Local Inducements</i>	
Mutual Aid Agreements	The reported number of mutual aid agreements entered into by the respondent's jurisdiction.
Natural Disaster Index	The reported number of natural disaster related CEM actions (drills and training combined) performed before September 11, 2001.
Terror Index	The reported number of terrorism related CEM actions (drills and training combined) performed before September 11, 2001.
<i>Local Department Capacity</i>	
Jurisdiction Type	Local government jurisdiction – County, municipality, etc.
Political Culture	What kinds of powers do local governments have in policy development?
Change in Local Budget Since 2001	Has the department's budget increased/decreased/stayed about the same since the September 11 attacks?
Jurisdiction Population	What is the size of the jurisdiction? Logged for normality.
FEMA Region	Where in the country is the jurisdiction located?