PRIORITIES AND CHALLENGES: A PHENOMENOLOGICAL STUDY OF
DISASTER MANAGEMENT CONSIDERATIONS IN CENTRAL TEXAS

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Requirements for the Degree of
Doctor of Management

By

Michael L. Brewer

Colorado Technical University

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ProQuest Number: 3740327

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Committee

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Lizabeth Jordan, D.M., Chair

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Rae Denise Madison, D.M., Committee Member

_____

Phyllis Parise, D.B.A, Committee Member

_____

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Abstract

The purpose of this phenomenological study was to identify the preparedness considerations emergency managers must contend with to ensure local disaster readiness. The researcher used in-depth one-on-one interviews to capture the personal and professional opinions of 10 county and municipal emergency managers in Central Texas. The researcher used a thematic analysis with two independent coders to evaluate the qualitative data and discover themes. The data analysis revealed planning and public outreach are significant tasks for emergency managers along with the extensive use of collaboration. Other key considerations included task overload, emergency notification problems, ineffective community engagement, and apathy. This research produced qualitative data useful to practitioners and scholars in the field of disaster management to reduce readiness impediments, improve resource allocation, and increase disaster preparedness.

Keywords: Disaster Management, Emergency Manager, Pre-crisis Considerations, Planning, Community Engagement, Collaboration, Phenomenology.

Dedication

This dissertation is dedicated to my wife, Audra, and my three children, Michael, Malan, and Montana; without your support, encouragement, and love this endeavor would not have come to fruition. The four of you have been the driving force that has propelled me along this arduous journey. I also dedicate this dissertation to my father-in-law, Stanley Gibbons, who has always been there to encourage me and provided me the opportunity to study while he willingly assumed many of my responsibilities around the house. I appreciate the sacrifices all of you have endured in the pursuit of this undertaking. Your support provided the foundation for this project, and I am forever grateful and thankful that all of you can share in this achievement. Additionally, this work is submitted in loving memory of Fonia Gibbons, a very special lady, mother, and grandmother.

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CHAPTER ONE

Emergency managers are charged with preparing for emergencies to save lives and mitigate property damage (United States Department of Homeland Security, 2014a). Disaster preparedness dynamics that emergency managers contend with to ensure crisis readiness at the county and municipal levels of government have received little academic attention and are not thoroughly understood (Deverell, 2012; Rocha, 2011). The identification of these tasks, priorities, issues, and challenges from this study provide valuable insight to scholars and policymakers in understanding the principal considerations confronting practitioners in the field of disaster management. Using a disaster management conceptual framework (Lettieri, Masella, & Radaelli, 2009), the focus of this study was on pre-crises actions by county and municipal emergency managers within the construct of the five core capabilities of preparedness (prevention, protection, mitigation, response, and recovery) (USDHS, 2013b).

This chapter begins with a topic overview and is followed by the problem statement, purpose, research question, and conceptual framework. The author's research assumptions and biases are outlined, as well as, the significance of the study, delimitations, limitations, and definitions of terms. Finally, an overview of the research design is highlighted.

Topic Overview/Background

Disaster management falls within one of the Department of Homeland Security's (DHS) five basic mission sets of strengthening national preparedness and resilience (USDHS, 2014a). After the attacks on 9/11, a renewed emphasis on emergency preparedness emerged (USDHS, 2011a). The federal government has spent billions of dollars and issued countless policies,

regulations, and statutes in an attempt to ensure preparedness, increase coordination, and improve response efforts (Caudle, 2012). Moreover, the 21st century has seen an increase of disasters that is four times higher than in the 1970s (Parker, 2011) while the severity of disasters has risen as the population expands into more risk prone areas (De Smet, Lagadec, & Leysen, 2012). Furthermore, accidents, terrorist acts, and natural disasters have heightened society's concern for such risks (Abkowitz & Chatterjee, 2012).

The Department of Homeland Security's National Response Framework places the responsibility for emergency response on individual communities (2013a). Several studies have shown that local communities are not as prepared as they should be which can affect response and coordination efforts (Donahue, Cunnion, Balaban, & Sochats, 2012; Jensen, 2011; Renaud, 2012). Despite improvements in disaster management science, studies have revealed the same types of mistakes continue to occur (Faith, Jackson, & Willis, 2011; Oh, 2012; Renaud, 2012; USDHS, 2011a).

Texas is a large state with numerous vulnerabilities and challenges encompassing 1250 miles of international border with Mexico; 367 miles of Gulf Coast; critical infrastructure; numerous oil refineries and petrochemical facilities; illegal cross-border activity; drug trafficking; flash flooding; tornados; blizzards; dust storms; hurricanes; and wildfires (State of Texas, 2010). Recent high-profile disasters in Texas have included the Columbia Space Shuttle disintegration in 2003, a chemical leak at a DuPont Plant near Houston in 2004, a British Petroleum refinery explosion in Texas City in 2005, Hurricane Ike in 2008, multiple wildfires that destroyed over one million acres in 2011, and two nurses infected with Ebola while caring for a patient in Dallas in 2014. Additionally, the 2009 and 2013 mass shootings at Fort Hood, the 2013 fertilizer plant explosion in the small town of West, and a 2015 train derailment and

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subsequent chemical spill occurred within the geographic boundaries of this proposed study. Regardless of the cause of the disaster, communities must be prepared to save lives and mitigate property damage (State of Texas, 2010).

Problem Opportunity Statement

The problem addressed in this study was a lack of understanding the preparedness considerations emergency managers must contend with to ensure disaster readiness (Deverell, 2012; Rocha, 2011). Disaster management is an evolving field of study that encompasses multiple academic disciplines, functional areas, and operational professions with different and conflicting perspectives, which dictates more study and research in this developing science (Deverell, 2012; Henkey, 2011). With the increase in scale, scope, and complexity of disasters over the last 30 years and subsequent escalation in deaths and damage (De Smet et al., 2012; Kapur & Smith, 2011; USDHS, 2011b), federal policy places the responsibility for disaster management on local communities (USDHS, 2013a). The scale and diversity of disasters have grown recently along with demographic shifts to more vulnerable areas and a reliance on technology have made disaster management more complex (USDHS, 2011b). Despite the importance of disaster management, little research has been conducted on the dynamic nature of disaster management tasks for emergency managers (Deverell, 2012; Rocha, 2011). This phenomenological study explored the preparedness considerations county and municipal emergency managers must contend with to ensure disaster readiness. Specifically, this study investigated the lived experience of emergency managers in Central Texas during pre-crisis management as they prepare their communities for disaster readiness.

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Purpose Statement

The purpose of this phenomenological study was to explore the preparedness considerations emergency managers must contend with to ensure local disaster readiness in Central Texas. Data collected from this study provides valuable insights for scholars and policymakers in understanding the principal issues confronting practitioners in the field of disaster management.

Research Question

This phenomenological study focused on the question: Based on the lived experiences of county and municipal emergency managers, what are the primary preparedness considerations in disaster management and the effects on readiness?

Theoretical Perspectives/Conceptual Framework

A phenomenological approach was the most appropriate method for this study by allowing the researcher to understand the lived experiences, tasks, priorities, issues, and challenges directly from the study participants. The data collected is useful to both practitioners and scholars to understand how these tasks and challenges affect organizations, disaster management, and crisis preparedness.

The conceptual framework of this study was the identification of the participants' diurnal tasks, priorities, issues, and challenges through a disaster management conceptual framework (Lettieri et al., 2009). The focus of this study was on pre-crises actions within the construct of the five core capabilities of preparedness (prevention, protection, mitigation, response, and recovery) (USDHS, 2013b).

Methodological context. This study used a qualitative design (Creswell, 2014) with a specific use of a phenomenological approach to identify the diurnal challenges of emergency

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managers and the impact on disaster readiness. This methodology allowed the extensive

collection of data from emergency managers and the identification of disaster management tasks

(Edmondson & McManus, 2007).

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Assumptions/Biases

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Understanding personal assumptions and biases is crucial in conducting research to keep

the process prejudice free and credible (Creswell, 2014). The researcher is a retired United States

Army Officer with experiences in homeland security and crisis management. Within the scope of

homeland security and disaster management, the researcher has worked crisis response in

numerous organizations and situations. During the Kosovo bombing campaign, the researcher

was the chief of operations for the Balkans Division at the Defense Intelligence Agency. The

researcher has worked in the U.S. Army Operations Center and several Joint and Multinational

Operations Centers during peace and conflict. On 11 September 2001, the researcher was at the

Pentagon standing just above the point of impact on the third floor of the D-Ring as Flight 77

crashed through the floors beneath him. From January 2004 to February 2005, while deployed to

Iraq, the researcher's duties included overseeing the combat operations center for a multinational

division. For several years, the researcher was the chief of operations for a large military

installation responsible for the Emergency Operations Center, which supported responses to

several natural disasters to include Hurricane Katrina, the 2010 Haitian Earthquake, Hurricane

Sandy, multiple wildland fires, and support to civilian authorities. As the chief of operations, the

researcher's duties have also included homeland defense planning, contingency management,

crisis reaction, and support to national authorities. In other capacities, the researcher has served

as a strategic planner and anti-terrorism officer in related homeland security and crisis

management activities.

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Given this background, the researcher's biases included preconceived notions and assumptions about the dynamics of disaster management issues. To alleviate transference of any presumptions, the researcher conducted this study with an open mind (Converse, 2012). Self-awareness, constant reflection, and reliance on mitigation strategies were essential in keeping the author's personal assumptions and biases out of the research process (Dowling & Cooney, 2012). The researcher excluded all personal feelings and opinions, as well as, presupposed problems and issues were set aside (Chan et al., 2013). The interview process followed a scripted process that allowed the subjects to express opinions without being influenced (Earle, 2010). Data collection and data analysis followed existing techniques explicitly. The author's topic awareness was critical in supporting a greater understanding of this research.

Significance of the Study

This disaster management study is significant because it identified disaster management tasks, priorities, issues, and challenges. This study provides valuable insights for scholars and policymakers in understanding the principal issues confronting practitioners in the field of disaster management, to establish processes to reduce readiness impediments, and improve resource allocation. Because there has been little qualitative research on the considerations affecting county and municipal emergency managers, this study provides foundational information for future research.

Delimitations

This study was limited to the emergency managers in Central Texas. Interviews were only conducted with individuals that had disaster management responsibility within their respective communities. Interviews took place in close time proximity to each other to ensure all subjects were operating from the same perspective. A significant event, such as a devastating act

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of nature or terrorist attack, occurring in the middle of the study could have potentially skewed answers for a portion of the group.

Limitations

This study was limited by the perceptions and experiences of the subjects. Experience levels of emergency managers may reflect priorities and perceptions of which issues are critical.

Definition of Terms

The following terms used in this research are summarized below:

Disaster management. Disaster Management is the process of preparing for and responding to crises and disasters (Coles & Zhuang, 2011).

Emergency Managers. Emergency managers are responsible for setting the conditions that allow communities to reduce vulnerabilities and deal with crisis through planning responses to all threats, hazards, and emergencies by coordinating resources and capabilities within their respective communities (State of Texas, 2010; USDHS, 2013b).

Disaster. Disaster is any event that requires substantial crisis response necessitating the use of governmental powers or resources beyond what is typically provided by first responders (Coles & Zhuang, 2011).

Council of Governments (COGs). Council of Governments are voluntary associations of local governments created under Texas statutes that are responsible for coordinating and planning regional issues such as homeland security, economic development, community services, hazard mitigation, and emergency preparedness with member governments (Texas Association of Regional Councils, n.d.).

Emergency Support Functions (ESF). Emergency Support Functions are coordinating structures for establishing, maintaining, and providing core capabilities (USDHS, 2013a).

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Multiple organizations typically provide support under a single federal ESF. State and local Emergency Support Functions may not have any direct linkages to federal ESF as local entities adopt ESF to fit provincial needs.

General Overview of the Research Design

There is little research regarding the diurnal pre-crisis disaster management considerations facing emergency managers (Rocha, 2012). Given the exploratory nature of this inquiry, a phenomenological study was identified as the most appropriate approach for this research (Edmondson & McManus, 2007)

Summary of Chapter One

The justification for this study was outlined in this chapter. Included within this section were an overview of the topic, problem statement, and purpose of this study. This chapter also introduced the research question, the conceptual framework, significance of the study, assumptions and biases, delimitations, and limitations of the study. Finally, this chapter provided a definition of terms and an overview of the research design.

Organization of the Study

The chapters that follow provide the foundation, justification, methodological context, results, and conclusions of the study. Chapter Two provides a review of the recent literature on the topic. The proposed methodology and design for the study are detailed in Chapter Three. Chapter Four presents the findings of the data collected. The analysis of the data and conclusions are contained in Chapter Five.

CHAPTER TWO

Emergency managers are charged with preparing for emergencies and disasters to save lives and mitigate property damage (USDHS, 2014a). This chapter reviews the literature regarding the preparedness considerations emergency managers contend with to ensure crisis readiness. The parameters of this study were pre-crises disaster management tasks, priorities, challenges, and issues affecting emergency managers within the five missions of preparedness as defined by Presidential Policy Directive 8 (Obama, 2011).

Because disaster management is an emerging field of study (Henkey, 2011), this research was exploratory (Edmondson & McManus, 2007) and was designed to identify the considerations that emergency managers must contend with to ensure disaster preparedness. This research gained an appreciation of the influences that affect pre-crisis disaster management at the county and municipal level in Central Texas through the lived experiences of emergency managers. Since there is little research on the considerations concerning county and municipal emergency managers, this study advances the understanding of those issues.

Disaster management is the process of preparing for and responding to crises and disasters (Coles & Zhuang, 2011). The five core missions of disaster management are prevention, protection, mitigation, response, and recovery (USDHS, 2013a). For the purpose of this study, the term *disaster* is defined as any event that requires substantial crisis response necessitating the use of governmental powers or resources beyond what is typically provided by first responders (Coles & Zhuang, 2011). Local governments are responsible for providing leadership and management for responses to all threats, hazards, and emergencies by coordinating resources and capabilities locally, with neighboring jurisdictions, the state, as well as, private and non-profit organizations (USDHS, 2013b). Developing an understanding of the

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considerations confronting emergency managers is useful to both practitioners and scholars to understand how these tasks and challenges affect organizations, disaster management, and crisis preparedness.

This literature review is organized into six components. The first portion of this section begins with an examination of the origins of disaster management followed by a discussion of disaster management theory. The subsequent segment highlights the literature within the five missions of preparedness that include prevention, protection, mitigation, response, and recovery. This chapter concludes with a review of current topics in disaster management, a conceptual framework, and underscores the gaps in the literature.

Origins

Although this particular area is an emerging field of study (Henkey, 2011), disaster management is not a new phenomenon (Bullock, Coppola, & Haddow, 2008). The first European settlers to establish a colony on the banks of the Atlantic Ocean were concerned about their safety and built fortifications to protect themselves and mitigate the threat (Hatch, 1957). The concept of disaster management has evolved over the centuries as threats have changed, and priorities shifted (Deverell, 2012).

Early literature on disaster studies focused on industrial accidents, causes and consequences, and risk management (Deverell, 2012). Quarantelli (1988) was one of the first scholars to examine disaster response through a crisis management lens. Over the last 20 years, emergency management has shifted from a Cold War focus on civil defense to an all-hazards approach (Waugh & Streib, 2006). The 9/11 attacks precipitated the largest federal government reorganization since the Department of Defense was created in 1947 and prompted considerable emphasis on emergency preparedness (USDHS, 2011a, 2014a). A literature review of disaster

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management from 1997 to 2005 revealed most of the literature on this subject was written after 9/11 and was limited in scope to sub-topics of disaster management with many gaps in the body of knowledge (Lettieri et al., 2009).

A review of the literature since 2005 revealed approximately double the number of articles published on the topic in the last nine years as compared to the previous 25 years of articles reviewed by Lettieri et al. (2009). Similar to the Lettieri et al.'s review, most topics were from various academic concentrations and contain only sub-elements of disaster management. The preponderance of the recent literature addressed the Department of Homeland Security and its associated systems and procedures (Henkey, 2011; Jensen, 2011; Renaud, 2012). Additionally, contemporary literature is rooted in large-scale disasters with a substantial amount of the scholarly work focused on the causes and consequences of the event (Deverell, 2012). Rocha (2011) found that emergency management tasks at the local governmental level were seldom addressed in the literature. Moreover, none of the studies reviewed focused on Central Texas. The scholarly work on disaster management is still in the early stages of development when compared to other academic disciplines (Pelfrey & Kelley, 2013).

The base document for disaster management is Presidential Policy Directive 8 (Obama, 2011). The State of Texas also produced a security strategy that provides direction and implementation guidance on the various subjects of disaster management to state entities, counties, and municipalities (2010). A general understanding of the issues dealing with disaster management can be obtained from the contextual literature. However, the majority of the literature themes and concepts are broad in nature and are not aimed at local emergency managers (Rocha, 2011).

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Theory

Disaster management is an emerging field of study within the homeland security concentration that includes multiple disciplines of study and conflicting perspectives where the theory is still ambiguous (Deverell, 2012). Only a small percentage of recent publications reviewed addressed disaster management theory (Coles & Zhuang, 2011; Deverell, 2012; Henkey, 2011; Urby & McEntire, 2014) and all concluded the theory in this field of study is still developing. Despite earlier calls for more research on disaster management theory (Herzog, 2007; Lettieri et al., 2009; Majchrzak, Jarvenpaa, & Hollingshead, 2007; Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008; Sementelli, 2007) a lack of consensus remains on categorizing the theoretical aspects and understanding the management issues of disaster management (Deverell, 2012; Urby & McEntire, 2014). An all-encompassing framework would provide disaster managers with the tools to guide organizational and disaster management decisions (Coles & Zhuang, 2011).

Lettieri et al. (2009) conducted a systematic analysis review of disaster management literature from 1997-2005 and concluded all the writings during this time period focused on limited sub-topics, hazard typologies, and lacked an actionable theoretical framework. Deverell (2012) reached similar conclusions that disaster management relied heavily on other academic fields and despite borrowing research and theory from other disciplines, disaster management theory is deficient because of a lack of a shared perspective among the multiple cross-disciplinary disaster management scholars. Coles and Zhuang (2011) examined the application of game theory as a framework for solving the complexity of disaster management and concluded that gaming theory provided some insights; however, the game theory model did not offer a holistic assessment tool. Because of similar overarching goals, Henkey (2011) argued for the use

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of sociology in understanding disaster management. Although disaster management science has benefited from the study of physical sciences in understanding natural hazards and sociology in comprehending human behavior in disasters, Urby and McEntire (2014) recently suggested the application of public administration theory and principles would increase the understanding of disaster management and increase the proficiency of emergency management programs. While considering the theoretical aspects of emergency management, it would be prudent to give a more detailed examination of selected aspects of contingency theory and collaboration theory.

Contingency Theory

Contingency theory posits the most effective management style and efficient organizational structure are contingent on the situation and the environment (Fiedler, 1958, 1964, 1971, 1978). This model contends that management efficacy is based on situational factors that are both internal and external to the organization (Luthans & Stewart, 1978). Situational variables include leader-member relationship, positional power, and task structure (Mitchell, Biglan, Oncken, & Fiedler, 1970). Leader-member variables encompass the dynamics between management and the workforce (Northouse, 2013). A positive work environment includes trust, allegiance, and a good interpersonal rapport between supervisors and subordinates. A workplace where there is friction, disdain, and mistrust is indicative of a poor relationship.

The second variable of this approach is positional power. This dynamic refers to the degree of authority and power associated with the leader's duty position (Mitchell et al., 1970). Strong leader authority includes the ability to hire and terminate employment. Accordingly, managers that do not have the power to reward or punish have weak positional power. Although all three variables are important managerial considerations, the last element of this theory was

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essential in establishing a construct for this research. What follows is a more detailed examination of this dynamic.

Task structure comprises the degree to which factors are defined, understood, and have a functional process to accomplish the task (Northouse, 2013). This approach highlights the need to identify tasks and recognize the conditions under which they are likely to occur (Mitchell et al., 1970). Luthans and Stewart (1978) stressed that known variables and clearly defined tasks can be understood, anticipated, and resourced. Structured tasks allow emergency managers to develop contingency plans and allocate resources during the pre-crisis phase of preparedness. Strategies, pre-established associations, and actions taken prior to a disaster provide the foundation for all response and recovery measures to an incident. Unidentified variables or vague tasks are harder to respond to and influence during the prevention, protection, and mitigation phases of disaster management.

The contingency model served as a theoretical framework for understanding the importance of identifying and understanding the tasks of emergency managers. Effective leader performance is contingent on the appropriate management measures predicated upon the situation (Weill & Olson, 1989). The application of this theory suggested that emergency managers must understand the numerous exogenous and endogenous factors to ensure readiness for their respective communities. Identification of situational variables begins the process of disaster management planning. An understanding of the pertinent environmental variables is a critical component of risk management and an all-hazards approach.

This theory surmises that considerations and tasks that are not clearly identified or understood will inhibit a manager's ability to deal with the situation. This methodology also implies there is no one optimal emergency management organizational structure, but the

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understanding of the environs can lead to the ideal approach for the situation. Structured tasks allow a prioritization of efforts, recognition of risk-prone areas, and increased collaboration with other stakeholders. Clearly identified and delineated tasks can be the impetus for requesting more resources. Furthermore, the complexity of the task and the lack of internal assets will often necessitate the need for mutual aid agreements, partnerships, and a whole community approach. These collaborative strategies dictate emergency managers have a thorough understanding of the underpinnings of collaboration.

Collaboration Theory

Collaboration theory provided a framework to understand the considerations that enhance and hinder collaborative solutions (Gray, 1985). Collaboration can be defined as the process in which two or more people work together, where there is no disparity in power equality between the parties, to achieving common goals (Colbry, Hurwitz, & Adair, 2014). Selin and Chevez (1995) underscored that collaboration has become a more widely used approach to solving complex issues over unilateral solutions. In a resource constrained environment, collaboration becomes an important aspect of disaster management by integrating resources and eliminating a duplication of efforts (Boyer, Cooper, & Kavinoky, 2011).

Defined in a variety of ways, across multiple fields of study (Montiel-Overall, 2005), collaboration is known by many names: joint ventures, working together, partnerships, combining resources, teamwork, cooperation, coalitions, alliances, consortiums, whole community, and associations (Gajda, 2004). Montiel-Overall (2005) described collaboration as being a reciprocal, amicable, and an information and power sharing strategic alliance. Selin and Chevez (1995) asserted that collaboration is simply a joint approach to a problem where stakeholders have a collective responsibility for actions and outcomes. Despite this

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uncomplicated characterization, collaboration can be intricate and difficult to manage (Montiel-Overall, 2005). Gajda (2004) described collaboration as not being an end state but a journey that relies on personalities and not procedures.

Collaboration theorists contend that the characteristics of collaboration include autonomous participants; setting aside of differences to arrive at an agreed upon solution; joint ownership of the issues and resolution; members assuming collective responsibility; and an evolving process (Jamal & Getz, 1995). Collaboration is a multi-stage sequence of identifying stakeholders and issues; determining common goals and solutions; developing a framework to work the problem; and implementation an appropriate resolution (Jamal & Getz, 1995; Selin & Chevez, 1995). Collaboration falls on a continuum of low to high shared efforts (Gajda, 2004). Degrees of collaboration range from independent groups exchanging information with mutually supporting objectives; separate groups aligning activities to support joint goals; entities giving up individual autonomy to realize a shared outcome; and organizations combining structures for collective purposes (Gajda, 2004). Obstacles to collaboration are a lack of flexibility, large working groups, over-centralization, ideological differences, situation constraints, and power inequities between parties (Selin & Chevez, 1995).

Historically, governments have used collaboration as an instrument of policy to coordinate resources for the common good (Dickinson & Sullivan, 2013). Today, collaboration is an essential, and often used, practice in disaster management (USDHS, 2011b). Collaboration is ideal for addressing complicated social issues and achieving both short-term and long-term goals (Gajda, 2004). Chun, Sandoval, and Arens (2011) proffered the benefits of collaboration are imaginative, novel, and useful solutions; societal confidence and participation in government; expansion of community influence in the planning process; governmental awareness of

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community opinions; inclusion of populations typically not represented; and facilitates feedback on any unintended consequence of policy decisions. Collaboration can be a useful tool for resolving conflict and increasing a shared vision where the parties recognize mutual benefits (Gray, 1989). Selin and Chevez (1995) asserted the collaboration process can be stimulated by crisis, third party inducement, legally mandates, unified understanding of stakeholders, established networks, encouraged by an influential leader, or through incentives.

Disaster management theory is still emerging while a lack of consensus remains in defining a predominant theoretical perspective in this critical field (Deverell, 2012; Urby & McEntire, 2014). However, the expressed theoretical approaches provided a conceptual structure to help frame the preparedness considerations that affect emergency preparedness. The identification of the daily tasks, priorities, issues, and challenges of emergency managers should provide insights into reducing readiness impediments, improve resource allocation, and increase overall disaster preparedness.

Preparedness

In 2011, President Obama signed Presidential Policy Directive - 8 (PPD-8) National Preparedness, which continued many of the existing policies of President Bush that were directed in Homeland Security Presidential Directive-8 (HSPD-8) (Caudle, 2012). PPD-8 established a foundation for all stakeholders and called for a national preparedness goal, a national preparedness system that integrates the national planning framework of all five missions, and an annual national preparedness report (Obama, 2011). Kahan (2014) argued that despite the fundamentals of PPD-8 being similar to HSPD-8, PPD-8 is more complex and ambitions that will require more federal efforts to sustain its progress otherwise it might fall short of its objectives. Caudle (2012) highlighted four policy concerns with PPD-8: (a) the capabilities

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development approach is not cost effective; (b) the whole community preparedness for a mega-disaster is not realistic and should be restructured based upon regional priorities; (c) there is no distinction in priority between slow-moving threats and immediate threats; and (d) there is a mismatch between the budget decisions and preparedness requirements.

The National Preparedness Goal established the National Preparedness System, which uses a capabilities-based planning process through 31 different core capabilities (USDHS, 2011e). The core capabilities of the National Preparedness Goal are organized into five mission areas of prevention, protection, mitigation, response, and recovery. Released in October 2011, the National Preparedness Goal is "A secure and resilient nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk" (USDHS, 2011e).

Released in November 2011, the National Preparedness System builds upon the lessons learned from Hurricane Katrina and is a systematic approach which uses an all-hazards capabilities-based planning through 31 different core capabilities that identifies risks, calculates needed requirements, builds and maintains capabilities, develops plans, evaluates progress, and promotes continuous improvement to meet the National Preparedness Goal (USDHS, 2011d). Responses to Hurricane Sandy, the Boston Marathon Bombing, and other recent incidents demonstrate that progress is being made in the National Preparedness System (USDHS, 2014c). The National Preparedness System is the foundation for implementing the core capabilities to establish and maintain a secure and resilient nation (USDHS, 2011d). Table 1 depicts the five mission areas of preparedness and the respective core capabilities as defined by National Preparedness Goal.

Table 1

National Preparedness Goal Mission Areas and 31 Core Capabilities

MISSION AREAS					
	Prevention	**Protection**	**Mitigation**	**Response**	**Recovery**
C O R E C A P A B I L I T I E S	Planning Public Information and Warning Operational Coordination				
	Intelligence and Information Sharing Interdiction and Disruption Screening, Search, and Detection			Infrastructure Systems	
	Forensics and Attribution	Risk Management for Protection Programs and Activities Cybersecurity Physical Protective Measures Access Control and Identity Verification Supply Chain Integrity and Security	Threats and Hazards Identification Risk and Disaster Resilience Assessment Community Resilience Long-term Vulnerability Reduction	Situational Assessment Operational Communications On-scene Security and Protection Mass Search and Rescue Operations Mass Care Services Fatality Management Services Environmental Response/Health and Safety Critical Transportation Public and Private Services and Resources Public Health and Medical Services	Economic Recovery Health and Social Services Housing Natural and Cultural Resources

Note. Adapted from "National Preparedness Goal," by the United States Department of Homeland Security, 2011, p. 2.

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The National Response Framework (NRF) is the base document for disaster response and builds upon the National Incident Management System by providing a scalable, flexible, and adaptable approach (USDHS, 2013a). The NRF superseded the National Response Plan, which was published in 2004, and was the first federal plan that integrated all levels of government, non-governmental agencies, and the private sector (Caudle, 2012). Preparedness refers to the actions taken to plan, organize, equip, train, and exercise to ensure and maintain the capabilities necessary to prevent, protect, mitigate, respond, and recover from threats and disasters (USDHS, 2013a). Emergency planning and response involves a diverse array of actors across numerous levels of government, to include non-profit and for-profit entities (Robinson, Eller, Gall, & Gerber, 2013). The NRF describes the key roles and responsibilities of the stakeholders and consolidates the response capabilities of the federal government into 15 Emergency Support Functions that are depicted in Table 2 (USDHS, 2013a).

Table 2

National Response Framework Emergency Support Functions

ESF #1	Transportation
Coordinator	Department of Transportation
ESF #2	Communications
Coordinator	DHS/National Communications System
ESF #3	Public Works and Engineering
Coordinator	DOD/U.S. Army Corps of Engineers
ESF #4	Firefighting
Coordinator	USDA/U.S. Forest Service and DHS/FEMA/U.S. Fire Administrator
ESF #5	Information and Planning
Coordinator	DHS/FEMA
ESF #6	Mass Care, Emergency Assistance, Temporary Housing, and Human Services
Coordinator	DHS/FEMA
ESF # 7	Logistics
Coordinator	General Service Administration and DHS/FEMA

ESF #8	Public Health and Medical Services
Coordinator	Department of Health and Human Services
ESF # 9	Search and Rescue
Coordinator	DHS/FEMA
ESF #10	Oil and Hazardous Material Response
Coordinator	Environmental Protection Agency
ESF #11	Agriculture and Natural Resources
Coordinator	Department of Agriculture
ESF # 12	Energy
Coordinator	Department of Energy
ESF #13	Public Safety and Security
Coordinator	Department of Justice/Bureau of Alcohol, Tobacco, Firearms, and Explosives
ESF #14	Omitted by National Disaster Recovery Framework
ESF #15	External Affairs
Coordinator	DHS

Note. Adapted from "National Response Framework," by the United States Department of Homeland Security, 2013, p. 32.

The guiding principles of the NRF are engaged partnerships; tiered response; scalable, flexible, and adaptable capabilities; unity of command and effort; and readiness to act (USDHS, 2013a). The success of disaster management execution is tied to interagency planning and coordination (Christopher, Frye, & Reissman, 2010). The core capabilities of the NRF are a derivative of the Strategic National Risk Assessment (SNRA) which identifies the threats and risk that pose the greatest threat to the United States (USDHS, 2013a). The SNRA identifies the following threats and risks: natural hazards; virulent pandemics; technological and accidental hazards (i.e., dam failures, chemical spills); terrorist organizations; and cyber-attacks (USDHS, 2013a). Preparedness is an individual, community, and national responsibility that involves assessing the greatest risks, prioritizing preparation efforts, and identify needed capabilities (USDHS, 2011e).

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The National Response Framework defines the local emergency manager's role as the administrator of the emergency management program with responsibilities to work with elected and appointed officials, establish objectives, coordinate activities, identify shortfalls, and correct deficiencies (USDHS, 2013a). Emergency managers work with government officials and elected leaders to develop strategies, create plans, establish priorities, leverage expertise, build and sustain capabilities, and fill gaps with mutual aid agreements or regional partners (USDHS, 2011d). Local jurisdictions are responsible for the safety and welfare of those individuals within their jurisdiction by providing guidance and resources across the five missions of preparedness (USDHS, 2013a).

The National Response Framework suggests emergency planner duties may include:

- Advise elected and appointed officials during a response
- Conduct response operations
- Coordinate with local agencies
- Coordinate the development of plans with all stakeholders
- Develop and maintain mutual aid agreements
- Coordinate response resources through Emergency Operation Center
- Coordinate damage assessments from an incident
- Advise officials about emergency management activities
- Develop and execute community awareness and educational programs
- Conduct exercises, test plans and systems
- Coordinate special population needs (USDHS, 2013a)

Texas Government Code directs jurisdictions to develop emergency operational plans with functional annexes that describe the entity's approach to emergency operations and methods of mitigation, preparedness, response, and recovery (State of Texas, 2015). The State of Texas (2015) requires plans and annexes be updated every five years or if a significant change occurs. Preparedness Standards for Texas Emergency Management (TDEM-100) provides guidance on achieving preparedness requirements (State of Texas, n.d.). The State of Texas divides readiness into basic preparedness (Table 3), intermediate preparedness (Table 4), and advanced

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preparedness (Table 3). All jurisdictions are expected to meet the basic requirements (State of Texas, n.d.).

Table 3

Basic Preparedness Level Requirements for Texas Municipalities

Basic Preparedness Level	
Establishment of local emergency management program	Annex E: Evacuation
Adoption of NIMS	Annex M: Resource Management
Updated NIMS compliant Basic plan with the following completed annexes	Annex N: Direction and Control
Annex A: Warning	Annex O: Human Services
Annex B: Communications	Annex Q: Hazardous Materials and Oil Spill Response
Annex C: Shelter and Mass Care	Annex V: Terrorist Incident Response

Note. Adapted from "Preparedness standards for Texas emergency management (TDEM-100)," by the State of Texas, n.d., p. 3.

Table 4

Intermediate Preparedness Level Requirements for Texas Municipalities

Intermediate Preparedness Level	
Includes all requirements for basic preparedness plus the following completed annexes	Annex J: Recovery
Annex D: Radiological Emergency Management	Annex K: Public Works and Engineering
Annex F: Firefighting	Annex L: Utilities
Annex G: Law Enforcement	Annex R: Search and Rescue
Annex H: Public Health and Medical Services	Annex S: Transportation

Note. Adapted from "Preparedness standards for Texas emergency management (TDEM-100)," by the State of Texas, n.d., p. 3.

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Table 5

Advance Preparedness Level Requirements for Texas Municipalities

Advance Preparedness Level	
Includes all requirements for basic and intermediate preparedness plus the following completed annexes	Annex T: Donations Management
Annex P: Hazard Mitigation	Annex U: Legal

Note. Adapted from "Preparedness standards for Texas emergency management (TDEM-100)," by the State of Texas, n.d., p. 4.

Required by PPD-8, the National Preparedness Report is produced annually and summarizes the progress made toward the core capabilities outlined in the National Preparedness Goal. In 2013, the National Preparedness Report concluded that states continue to report high levels of capability in areas where states have established internal priorities; however, states are not improving in other deficient areas and expect federal government assistance in those vital areas (USDHS, 2013d). Budget reductions at the state and local level present significant challenges in preparedness efforts affecting training, staffing, and scaled down acquisitions (USDHS, 2014c). Despite incremental improvements in all mission areas, the 2014 National Preparedness Report highlighted for the third year in a row that Cybersecurity, Health and Social Services, and Housing capabilities need improvement (USDHS, 2014c). Furthermore, the National Preparedness Report recently added Long-term Vulnerability Reduction as an area needing improvement (USDHS, 2014c). Faith et al. (2011) conducted a Failure Mode Effects and Criticality Analysis (FEMCA) on 70 different crisis responses and found the most frequent failures cited were insufficient resources, training, or equipment; inadequate training of emergency operations center procedures; and communication hardware and software failures.

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Growth of technology, especially mobile technology, has been a primary driver of preparedness innovation (USDHS, 2014c). Dimova (2011) advocated the use of geo-information in the planning, monitoring and execution of disaster management. Moreover, Papadopoulou, Savvaidis, and Tziavos (2011) stressed that a web-based geographic information systems (GIS) system would increase the quality of decision-making and coordination at all levels of disaster management. With today's technology, information overload is a bigger problem than lack of data which requires greater situational awareness and having the ability to forecast by detecting, integrating, and interpreting data from the environment (Johnson, Zagorecki, Gelman, & Comfort, 2011).

Prevention

The National Prevention Framework sets the strategy and doctrine for prevention within the National Preparedness System (USDHS, 2013b). While focusing on the whole community, the federal goal of prevention is to avoid, prevent, or stop imminent terrorist threats or follow-on attacks (Obama, 2011). The core capabilities of prevention are planning; public information and warning; operational coordination, forensic and attribution, intelligence and information sharing; interdiction and disruption; and screen, search, and detection (USDHS, 2013b). State and local entities support the federal government by countering violent extremism, raising public awareness, and sharing intelligence (USDHS, 2014b). The guiding principles of prevention are engaged partnerships; scalable, flexible, and adaptable response; and readiness to act (USDHS, 2013b). Prevention efforts at the federal and state level are focused on detecting, deterring, denying access, and stopping criminal and terrorist acts before they occur through a robust, integrated investigative and intelligence capability (State of Texas, 2010).

Emergency manager activities within this domain are centered on reducing vulnerabilities from terrorist attacks, criminal elements, catastrophic events, and natural disasters (State of Texas, 2010). Disaster management duties also include establishing objectives, maintaining plans, assessing capabilities, identifying shortfalls, and taking corrective action through coordination and integration of community elements (USDHS, 2013a). Local emergency planning is challenging because coordination must occur with numerous groups, agencies, private entities, and non-governmental organizations, many times unaware of each other's capabilities and planning efforts (Moore et al., 2012). After the devastating effects of Hurricane Katrina, Moore, Trujillo, Stearns, Basurto-Davila, and Evans (2009) examined disaster management lessons learned from 13 natural disasters and concluded that previous disaster experiences need to be promulgated through institutionalized learning process and that best practices, which are appropriate for the area, should be systematically identified and archived for future use. While proactive crisis prevention is an emerging trend over crisis reaction, Jaques (2010) emphasized that the responsibility for crisis prevention should reside with executive leadership and not be relegated to operational levels.

Protection

Protection refers to those capabilities necessary to counter acts of terrorism and man-made or natural disasters (Obama, 2011). The National Protection Framework provides the guiding principles for communities, government, and non-governmental entities (USDHS, 2014b). Protection includes law enforcement processes; defense against threats; critical infrastructure protection; event and key leadership safety; transportation security; and cyber-security (USDHS, 2013b). Protection efforts are coordinated with all levels of government and the private sector and enhance resilience through security protocols; hardening facilities,

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redundancy; passive and active countermeasures; security systems; workforce surety; and continuity planning (USDHS, 2014b). The National Protection Framework highlights that local governments are responsible for facilitating coordination of protection plans; execution of core capabilities; addressing specific geographic protection issues; the establishment of cross-jurisdictional agreements and public-private partnership; and the engagement and information sharing with the with all pertinent entities and citizens.

Mitigation

The National Mitigation Framework defines mitigation as an entire community process to reduce the impact of an event and increase the speed of recovery (USDHS, 2013c). A paradigm shift occurred in the 1990s from a disaster response centric strategy to an emphasis on a mitigation approach (Waugh & Streib, 2006). Due to the complexity of the issues and risks, emergency management should be a collaboration within the homeland security enterprise with a holistic, comprehensive framework, and interdisciplinary approach (Kiltz, 2012). Klima and Jerolleman (2014) argued that despite being a new area of study, natural hazard mitigation has been in practice for many years by various isolated activities, but now requires a more consistent and coordinated approach through education, training, combining resources, collaboration with other mitigation professionals, increased public awareness, and recognition as an independent field. The insurance industry has long used predictive analysis using various models to estimate the probability and direct and indirect losses caused by natural disasters (Tseng & Chen, 2012).

Mitigation capabilities include risk reduction; efforts to increase the resilience of critical infrastructure and vital resources; risk reduction for specific vulnerabilities from natural hazards or acts of terrorism; and initiatives to reduce future risks after a disaster has occurred (Obama, 2011). By reducing the impacts; consequences; duration; and financial and human costs,

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individuals, communities, and the nation are more resilient (USDHS, 2011e). Nationwide, natural disaster mitigation efforts saved an estimated $3.2 billion in 2013 (USDHS, 2014c).

Response

The National Response Framework sets the guiding principles of providing scalable, flexible, and adaptable whole community coordinated responses to attacks or natural disasters (USDHS, 2013a). Communication system failures, ineffective employment of resources, and non-functioning command and control structures are often cited as reasons for a lack of effective response to disasters (Parker, 2011). History has shown that special needs populations, sometimes called at-risk populations, have seldom been considered in emergency response plans which demands the planning for shelter in place and displacement of special groups, as well as, transportation planning and medical care while in transit or at a shelter (Ringel et al., 2009). While communities comprise the core of response efforts, recently, grassroots organizations (OpenStreetMap, GISCorps, and MapAction) have provided new tools for disaster response by collecting, analyzing, and acting upon information (Crowley, 2013).

The National Incident Management System (NIMS) provides incident management for crisis response and plays an integral part in defining command and control systems at the local, state, and national level during crisis response (Moynihan, 2009; Stambler & Barbera, 2011). NIMS is a comprehensive framework that combines doctrine, concepts, terminology, and processes that enable effective and efficient all-hazards response (USDHS, 2011f). In 2006, the use of NIMS became mandatory, and reporting on compliance became compulsory in order to receive certain types of funding. Although participation in NIMS at the local and state level is not required, all those that participate in the system must adhere to the standards, training, and practices (USDHS, 2011f). Jensen (2011) conducted a quantitative analysis of the

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implementation behavior of NIMS at the local level and found emergency managers were reporting employment of NIMS in order to get federal funds despite the lack of full implementation that questions the effectiveness of NIMS in a crisis situation.

Recovery

Disaster recovery is the processes to restore and improve health, way of life, and security (USDHS, 2013a). Long-term recovery from disasters presents a significant challenge to affected populations requiring comprehensive strategies to restore the health and livelihoods of those affected communities (Garnett & Moore, 2010). It is not uncommon for elements of disaster recovery to be poorly administered because resources are not phased in and sequenced with appropriate personnel in a timely manner (Rolland, Patterson, Ward, & Dodin, 2010).

Successful recovery efforts emphasize local empowerment, organization, leadership, and planning for sustainability (Garnett & Moore, 2010). Detailed preparation is a necessity with a bottom-up approach that includes an appropriate sequencing of resources (Rolland et al., 2010). The success of the recovery phase is based upon the planning and mitigation efforts that occur in the preparedness phase (USDHS, 2011e). Unity of effort is essential in recovery that consists of an inclusive partnership with all members of the community to include those with limited English proficiencies, different cultures, and individuals with disabilities (USDHS, 2011e). Communities should be educated, trained, hardened, and able to provide assistance to response and recovery (Plough et al., 2013).

<div align="center">

Topics in Disaster Management

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The following section highlights critical aspects of disaster management, as identified by a review of the literature. The delineated topics have a significant role in pre-crises disaster

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management. The issues depicted are risk management, all-hazards approach, resilience, partnerships, whole community, and communication.

Risk Management

Disaster risk management emerged in the 1990s with three key components of hazard assessment, vulnerability analysis, and an emphasis on management (Parker, 2011). Risk management is the process of identifying, analyzing, communicating, and mitigation (USDHS, 2011c). Published in 2011, Risk Management Fundamentals: Homeland Security Risk Doctrine captures the principles and process of risk management and serves as the foundational document for risk management in the homeland security enterprise. A systematic approach to risk management is necessary to determine where to invest critical resources (Abkowitz & Chatterjee, 2012). Studies have shown that disaster risk management can be a cost-effective method of resource allocation (Kull, Mechler, & Hochrainer-Stigler, 2013).

Risk management is a process that includes planning; identifying the risks; analyzing and assessing the identified risks; developing alternate courses of action; examining the associated costs; making a decision between costs and courses of action; and monitoring decisions and consequences (USDHS, 2011c). Risk can be categorized in terms of likelihood and consequences. Risk management strategies are: risk acceptance (no mitigation), risk avoidance (action to remove risk from event), risk control (steps taken to lessen the risk), or risk transfer (actions taken to shift the risk elsewhere) (USDHS, 2011c).

The National Preparedness Report recently added long-term vulnerability reduction as an area needing improvement within the United States (USDHS, 2014c). The growing dependence on technology and demographic shifts to more vulnerable areas have made disasters more complex (USDHS, 2011b). Less affluent areas tend to have a concentration of minorities that

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suffer from a disproportionate amount of environmental hazards (Haley, Woolf, Zimmerman, & Evans, 2012). The first step of planning is the identification of vulnerable populations which should include unreachable populations in rural areas and prisons (Ringel et al., 2009). Highly urbanized and industrial areas tend to be the most prone to natural catastrophes making local community participation in disaster mitigation necessary (Tseng & Chen, 2012). Mishra, Fuloria, and Bisht (2012) found that mapping disaster-prone areas and comparing requirements to available resources prior to an event can expedite recovery efforts. Armenakis and Nirupama (2013) recommended the use of geographic information systems to identify hazards and evacuation zones, spatial decision-making, critical infrastructure, population distribution, and hazardous land-use planning.

All-hazards Approach

The 2001 attacks on the World Trade Center, Pentagon, and subsequent anthrax postal attacks brought about a shift change from risk management to an all-hazards approach (Parker, 2011). An all-hazards approach does not mean preparing for all types of hazards, but focuses on building capacity and capabilities for a broad spectrum of potential events (Parker, 2011). Using an all-hazards approach allows decision-makers to weigh the chance of an event occurring against the cost of destruction if the event occurs, which can be expressed in terms of likelihood of occurrence and economic consequences (Abkowitz & Chatterjee, 2012). By comparing risks from multiple incidents, a decision can be made where to apply valuable resources. Palliyaguru, Amaratunga, and Baldry (2014) argued for a holistic approach to risk reduction through a vulnerability (cultural, economic, physical, political, social, and technological) reduction executed at all levels of government, at the community, and at the individual level. Hewitt (2013) advocated for a more proactive risk preventative approach in consumer protection and public

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safety (food, disease, accident, structural, transportation, power, crime) over the fixation with the predictive risk approach focused on extreme events. Parker (2011) took this a step further and suggested a paradigm shift by combining the all-hazards and resilience approaches. Using the all-hazards approach within the framework of resilience, Parker proffered a more flexible and proactive approach that increases the synergies of both approaches.

Disaster management planning begins with an all-hazards approach that looks at all threats irrespective of origin (USDHS, 2013a). The State of Texas requires all emergency management stakeholders to participate in planning using the *all-hazards all-hands* approach that includes vertical and horizontal integration of issues and organizations (2010). Biedrzycki and Koltun (2012) proposed adding a whole community approach that includes social determinants (wealth, resources, unemployment, education levels, available housing) of the community. Recently, Donahue et al. (2012) advocated a shift to an *all-needs approach* that incorporates the requirements of the impacted population into the planning process. Mishra et al. (2012) stressed that measuring vulnerabilities must also include socio-economic status of the population, physical vulnerabilities, cultural differences, economic factors, and technological issues.

Resilience

Resilience refers to a system's ability to respond to changing conditions, withstand, recover, and adapt to a new environment (Kuhlicke, 2013). Resilience is a complex subject covering many areas with many players (local, state, federal, private, and public) with the objective of resistance, absorption, and restoration (Kahan, Allen, & George, 2009). The concept of resilience originates from multiple academic backgrounds and professions (Bhamra, Dani, & Burnard, 2011). Kahan (2015) argued that resilience is a product of preparedness. The principles

of resilience are threat and hazard limitation; robustness; consequence mitigation; adaptability; risk-informed planning; risk-informed investments; harmonization of purposes; and comprehensiveness of scope (Kahan et al., 2009).

Building a widespread resilience throughout communities is a national priority (USDHS, 2013c). Since the private sector owns 85% of the infrastructure, it is paramount that communities and businesses are involved in the process (Busch & Givens, 2012). Resilience is a major part of the planning process to include continuity of government and continuity of operations (Kahan et al., 2009). Individual and organizational resiliency plans and policies must be intuitive and applicable to a changing environment (Bhamra et al., 2011). Since the primary responsibility of increasing resilience falls outside the federal government's purview and belongs predominantly to non-federal entities and individuals, the government's role is to promote and facilitate mitigating measures (U.S. Government Accountability Office, 2014a). Emergency managers should engage the community early to establish population resilience (Jordan, 2011). Resilience must be broad, profound, and incorporate both hard (infrastructure and assets) and soft (individuals and communities) systems (Kahan et al., 2009). Because retrofitting is more expensive, early planning and design plays in important factor in infrastructure resilience (Boyer, et al., 2011).

Resiliency begins at the local level with recognition of the threat, an assessment of risks, vulnerabilities communicated to higher entities, and development of a plan to mitigate the risks (USDHS, 2011e). Establishing relationships with community partners is essential prior to an emergency (USDHS, 2011e). Collaboration, planning, and building relationships with all stakeholders is an important part of resilience (Parker, 2011). Other elements that increase community resilience are social organizations, economic influences, insurance coverage, stable

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housing, and sustained healthy behaviors (Plough et al., 2013). An essential component of community resilience is a supportive social environment that is interconnected (socially and informational) between individuals, community leaders, and governmental organizations (Plough et al., 2013).

Community resilience is more than the summation of individual resiliency (Plough et al., 2013). Using the system of systems approach, communities can evaluate mitigation factors by examining essential subcomponents of the community such as critical infrastructure, economic resources, social predispositions, government resources, logistical vulnerabilities, and mitigation strategies (Carlson et al., 2012). The summation of these subsystems helps determine community resilience, mitigation capability, and risks within a community.

Despite improvements since Hurricane Katrina, Hurricane Sandy demonstrated a lack of sustained engagement with community-based organizations, faith-based institutions, and neighborhood groups (Plough et al., 2013). A recently released GAO report found various concerns to resilience included: (a) communities are challenged trying to balance the cost of hazard mitigation and economic development; (b) individuals fail to understand personal responsibility of risk reduction; and (c) there are widespread issues with clarity of information to make informed decision (USGAO, 2014a). Mayer, Carafano, and Zuckerman (2011) argued that the homeland security enterprise requires more decentralization; at the federal level there is waste along with policies that don't promote resilience; and that states must accept more responsibility for disaster management. Communities must be resilient and self-sufficient because federal and state disaster relief and emergency response to catastrophic events can be delayed and insufficient (Plough et al., 2013).

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Partnerships

      A public-private partnership is an agreement between the private sector and a public entity (local, state, federal) for a service (USDHS, 2010). The use of public-private partnerships is essential in disaster management (State of Texas, 2010). Public-private relationships have been around since Benjamin Franklin established the American Philosophical Society of Philadelphia in 1792 (USDHS, 2010). Partnerships are necessary since the private sector provides most of the jobs, owns most of the infrastructure, and possess the goods and services needed during a crisis (Kolluru, 2012). During catastrophic events, a wide variety of uncommon partners are required which necessitates the identification of those assets in pre-incident planning and community involvement in conducting training, exercises, and the establishment of partnerships (USDHS, 2011e). Public-private partnerships provide greater efficiency, save taxpayer money, improve compliance, and allow costs and risks sharing which may lead to cheaper and better innovations (Boyer et al., 2011).

      Because of shrinking budgets, emergency managers are turning more toward partnerships for additional expertise and a pooling of resources (Kolluru, 2012). No single partnership model works in every community, but partnerships general fall into three categories: (a) coordination of the procurement of donated products and services in disasters; (b) improving communication and information flows between private and public sector; and (c) assessing economic and community impact of the disaster (Kolluru, 2012). Partnerships are critical to infrastructure protection and require an integrated approach with all the stakeholders to help identify, deter, detect, reduce vulnerabilities, and mitigation of potential consequences (DHS, 2013e). The BP Deepwater Horizon disaster was an excellent example of partnership in action where public and private sectors worked together to restore the Gulf of Mexico (Busch & Givens, 2012).

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GAO studies have identified information sharing as a key to developing effective partnerships (USGAO, 2014b). The GAO found that sharing of critical information with industry partners was often late which undermined the relationship. Moreover, collaboration and coordination are needed for effective partnerships since the majority of the critical infrastructure resides in private hands (Busch & Givens, 2012). In 2014, the GAO recommended a continued focus on timely information sharing especially with security assessments.

Whole Community

Whole community is a philosophical approach that collectively engages all sectors of society (governmental, private, non-profit, and faith-based organizations) in understanding risks, assessing needs, implementing preparedness strategies, and building resilience (USDHS, 2013a). Whole community strategies include appreciating community complexities; recognizing community capabilities and needs; developing relationships with leaders; fostering partnerships; local empowerment; and leveraging and strengthening community networks (USDHS, 2011b). A collaborative process with all stockholders is necessary to gain a deeper understanding of the people in the affected area (Biedrzycki & Koltun, 2012). A government-centric approach does not work as large disasters can quickly overwhelm the government response (USDHS, 2011b). Recent disasters reinforce the strategies of greater partnerships between government, non-governmental agencies, and the whole community to increase preparedness and response efficiency (Chandra et al., 2013).

Current government policies and strategies rely on community involvement to increase resilience, but studies have found that community-based organizations devote minimal time to disaster preparedness and require different levels of engagement than previously used (Chandra et al., 2013). Despite the emphasis on a whole community approach, most traditional

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preparedness models and practices still do not sufficiently consider underlying social conditions and the dynamics of community resiliency (Biedrzycki & Koltun, 2012). Population changes include more people with disabilities habiting in the community instead of an institution, more individuals with chronic medical conditions, increased number of senior citizens, more diverse ethnicities with linguistic challenges, and population shifts to more disaster prone areas (USDHS, 2011b). The proper role of the community must be determined in disaster preparedness because the community plays a significant role in organizing and providing aid to individuals in afflicted areas (Patterson, Weil, & Patel, 2010).

Hurricane Katrina demonstrated a need to include communities in disaster planning where many survivors claimed to not have enough credible information to make informed decisions to evacuate (Patterson et al., 2010). Trust in local officials plays a significant part in disaster management with communities and individuals (Patterson et al., 2010). Engaging the whole community is essential to effective partnerships (USDHS, 2013a). Emergency managers have a responsibility for understanding the needs of all members of the community while individuals have a responsibility to reduce hazards in their environs, have emergency supply kits, and to be prepared (USDHS, 2013a). Communities and nongovernmental agencies are pivotal in providing shelter, food, supplies, and other services (USDHS, 2013a). Community mapping can be a useful tool to identify capabilities, patterns, and weaknesses (USDHS, 2011b).

Communications

Communications are a critical aspect of disaster management and are always prone to failure (Hallahan & Peha, 2013). In 2014, DHS updated the National Emergency Communications Plan, as required under the Homeland Security Act of 2002. The purpose of the document is to provide goals, objectives, and recommendations for all stakeholders (USDHS,

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2014d). The complexity of disasters makes communication during a crisis challenging which requires incorporation of communications plans that are tailored to all stakeholders through various mediums in the management process (Palttala, Boano, Lund, & Vos, 2012). Poor communication leads to poor coordination and poor execution (Abbasi & Kapucu, 2012). The top priorities identified in the National Emergency Communications Plan are to improve Land Mobile Radio Systems; ensure governmental and local users are preparing for broadband technologies and the Nationwide Public Safety Broadband Network; and increasing coordination through the entire emergency response community.

Guiding principles of disaster communications includes: credibility, constant updates, leadership, collaboration, coordination, identifying the audience, using multiple media, providing guidance, and reassurance (Schmalzried, Fleming Fallon, & Harper, 2012). Studies have found that community diversity and the diversity of voices that supply crisis information to the populace should be considered because individuals are more receptive to emergency management information when the diversity of the voice is reflective of the population (Heath, Lee, & Ni, 2009).

Department of Homeland Security (2014d) recommends local entities assess current equipment and procedures and are prepared to take advantage of new technologies and policies. Alternate systems, which provide strategic and tactical solutions, should be planned and employed in the management of disasters (Patricelli, Beakley, Carnevale, Tarabochia, & von Lubitz, 2009). The Internet also provides an excellent means for providing information during an emergency due to the connivance, detail, and current data (Schmalzried et al., 2012). As technology improves, other systems like next generation 9-1-1 services will enable the use of multimedia (voice, video, text messages, and data) for improved emergency communications

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(Gupta, Dantu, Schulzrinne, Goulart, & Magnussen, 2010). Emergency Notification Systems using a multi-modal approach over various media systems can shorten emergency provider's response times and increase the common operating picture (Edwards, Cuthbertson, & Peterson, 2011). However, with the move toward expanded use of technology, cyber-security is a growing concern prompting calls for risk mitigation strategies, training, education, and device safeguards and protection (USDHS, 2014d).

Social media engagement plans should be a standard part of emergency management taking into account culture and social-economic differences of the population (Veil, Buehner, & Palenchar, 2011). Conventional and social media are essential tools. Social media can counter misinformation quickly and be used to monitor web traffic providing alerts and useful trend analysis (Veil et al., 2011). Twitter and Facebook have become more popular in emergency management and are replacing traditional automatic alert systems (Schmalzried et al., 2012).

Emergency managers should have prepared information plans ready for different situations. Veil et al. (2011) advocated for the use of dark sites, where information is already stored on the web in case of an emergency and activated when needed. As communication increases, organizations change and adapt thereby increasing coordination output (Abbasi & Kapucu, 2012). Pfeifer (2011) argued that *network fusion*, which is the real-time collaboration of information with numerous agencies and partners via technology, allows a cost effective method of enabling decisions in a timely manner and overcomes the limits of traditional hierarchical systems and a fluid flow of information. New information technologies can be integrated to improve disaster response operations with GIS technologies, cell phones, and citizen volunteers in Community Emergency Response Teams to begin damage assessments and provide

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information and pictures from the affected area to improve situational awareness in the early stages of a disaster (Kiltz & Smith, 2011).

Territoriality is a major problem blocking effective communication that can be reduced by increasing communication at all levels of government and private organizations (Matusitz & Breen, 2011). In a study of emergency managers in North Carolina, Bowman and Parsons (2013) found the use of collaborative networks varied widely and are a factor of county assets, perception of risk, proximity to other counties, and distance to the State Capital. Counties with limited resources, high risks, and close geographic propinquity to other governmental elements tend to collaborate more.

Gaps in the Literature

Previous research regarding preparedness considerations affecting emergency managers at the county and municipal level of government identified in this review focused on various wide-ranging themes within the disaster management realm. Disaster management is a developing scholarly field that encompasses multiple academic disciplines, functional areas, and operational professions with different and conflicting perspectives (Deverell, 2012; Henkey, 2011). Gaps in the body of knowledge surrounding this topic are numerous (Deverell, 2012; Lettieri et al., 2009) with little research conducted on the dynamic nature of disaster management tasks, priorities, issues, and challenges affecting emergency managers (Rocha, 2011). Moreover, none of the recent studies were conducted in Central Texas. Therefore, this qualitative study captured useful information to practitioners and scholars.

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Conceptual Framework

The conceptual framework for this study provides a depiction of the dynamics, theories, and organization of this study (see Figure 1). This conceptual model served as a construct for identifying and understanding the considerations emergency managers must contend with to ensure their communities are prepared for disasters. This study identified the influences that affect pre-crisis disaster management at the county and municipal level in Central Texas. Through the lived experiences of emergency managers, the goal was to ascertain the participants' diurnal tasks, priorities, issues, and challenges through a disaster management framework (Lettieri et al., 2009).
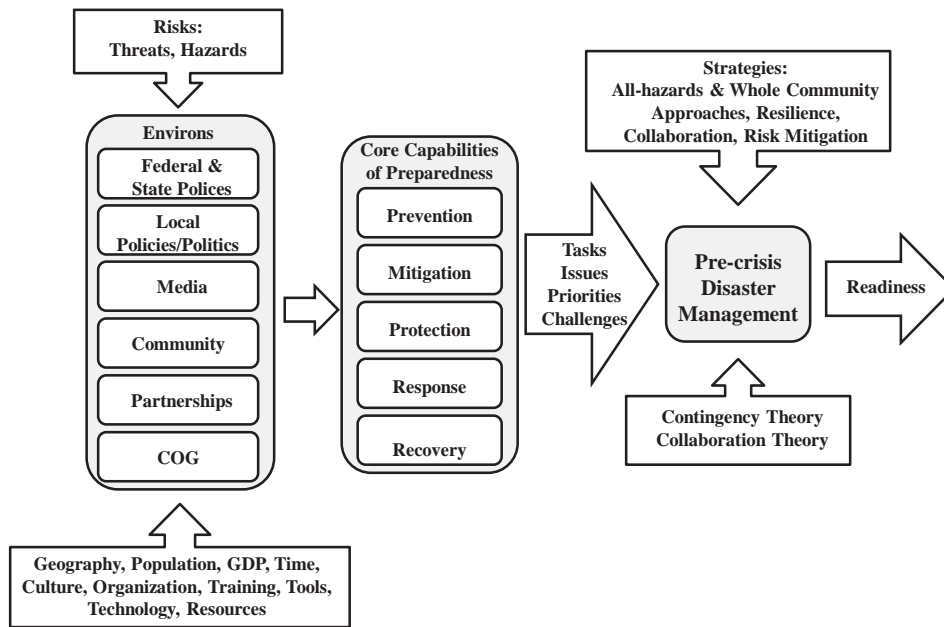

Figure 1. Conceptual Framework

Disaster management is the process of preparing for and responding to crises (Coles & Zhuang, 2011) by setting the conditions that allow communities to reduce vulnerabilities and

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deal with disasters through planning responses to all threats, hazards, and emergencies by coordinating resources and capabilities within their respective communities (State of Texas, 2010; USDHS, 2013b). The environs, resources, and social-economic conditions of each municipality or county are unique to each locale and present distinct challenges. The five core capabilities of disaster preparedness (prevention, protection, mitigation, response, and recovery) serve as a construct through which disaster management actions are viewed and coordinated. The environmental risks and local physiognomies are filtered through the five core capabilities of preparedness and produce unique pre-crisis disaster management considerations.

While disaster management theory is still emerging (Deverell, 2012; Urby & McEntire, 2014), the use of contingency and collaboration theories provided valuable insights into understanding this phenomenon. The application of contingency theory suggested that emergency managers must understand the numerous exogenous and endogenous considerations to ensure readiness for their respective communities. Contingency theory asserts that tasks that are not explicitly identified or comprehended will inhibit a manager's ability to deal with the situation. Collaboration theory provided a framework to understand the considerations that enhance and hinder collaborative solutions (Gray, 1985). The expressed theoretical approaches provided a construct to comprehend the significance of preparedness considerations that affect emergency readiness.

At the macro level, the extant literature provided various collaboration, risk mitigation, and resiliency strategies and approaches. However, at the micro-level, the dynamic considerations that emergency managers must deal with are not well documented (Rocha, 2011). Effective leader performance is contingent on the appropriate management procedures taken based on the situational dynamics (Weill & Olson, 1989). Effective pre-crisis planning is

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contingent on understanding and anticipating the dynamic disaster management considerations. Using a phenomenological approach to capture the lived experiences of municipal and county emergency managers in Central Texas allowed for the understanding of their diurnal tasks, priorities, issues, and challenges of pre-crisis disaster management.

Why the Literature Led to the Research Question

After the attacks on 9/11, a renewed emphasis on emergency preparedness emerged (USDHS, 2011a). Additionally, accidents, terrorist acts, and natural disasters have heightened society's concern for such risks (Abkowitz & Chatterjee, 2012). The federal government has allocated billions of dollars in an attempt to ensure preparedness, increase coordination, and improve response efforts (Caudle, 2012). Despite this enormous effort and an abundance of regulatory guidance, disaster response efforts continue to show the need for improvement in crisis response (Faith et al., 2011).

The Department of Homeland Security's National Response Framework places the responsibility for emergency response on individual communities (2013a). Several studies have shown that local communities are not as prepared as they should be which can affect response and coordination efforts (Donahue et al., 2012; Jensen, 2011; Renaud, 2012). Despite improvements in disaster management science, the same types of mistakes continue to occur (Faith et al., 2011; Oh, 2012; Renaud, 2012; USDHS, 2011a). Additionally, disaster management and crisis response coordination are perishable skills that are directly affected by numerous factors such as high personnel turnover, lack of training, and available resources, which can affect the emergency preparedness of a community (Oh, 2012).

The literature review examined the phases of disaster management and current trends in the field. However, the extant literature does not address the preparedness considerations

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emergency managers must contend with during pre-crisis disaster management. This study provides information to assist leaders and scholars in disaster management to understand the tasks, priorities, issues, and challenges disaster managers face as they prepare their communities for crisis situations.

Summary of Literature Review

This study required an exploration of the literature on disaster management that provided a general understanding of some of the issues emergency managers must contend with on a daily basis. This study answered the research question: Based on the lived experiences of county and municipal emergency managers, what are the primary preparedness considerations in disaster management and the effects on readiness?

A comprehensive look at the methodology of the study is provided in Chapter Three. Specifically, the next section includes research traditions, research questions, and designs. Additionally, the population, data collection, and analysis are reviewed in this chapter. The researcher followed the process and the specific steps outlined in the following chapter while conducting the study.

The purpose of this phenomenological study was to identify considerations emergency managers contend with to ensure crisis readiness in Central Texas. The researcher selected this research design to capture the experiences and opinions of emergency managers. The research tradition upon with this study was based; the design chosen; the research question; the instrumentation; ethical considerations; and the data collection and analysis are detailed in this chapter.

Research Tradition(s)

Disaster management is a developing area of study (Deverell, 2012; Henkey, 2011) and this research falls in the exploratory realm on the scientific continuum (Edmondson & McManus, 2007). For these reasons, a qualitative study was the most appropriate for this inquiry. Specifically, a phenomenological approach was used to understand the lived experiences of the participants (Fisher & Stenner, 2011; Tuohy, Cooney, Dowling, Murphy, & Sixsmith, 2013).

While the German philosopher Edmund Husserl is considered the father of phenomenology, the works of Heidegger, Gadamer, Merleau-Ponty, Sartre, and Ricoeur have also been influential in this methodology (Converse, 2012; Dowling & Cooney, 2012; Earle, 2010). The purpose of a phenomenological study is to gain knowledge about a phenomenon by focusing on the participants' experiences (Moustakas, 1994). This inquiry strategy relied on understanding the common experiences and perceptions of individuals that have experienced the phenomenon (Groenewald, 2004; Merriam, 2009).

The two classical phenomenological approaches are Husserl's transcendental, or descriptive, approach and Heidegger's hermeneutic, also known as interpretive, method (Chan, Fung, & Chien, 2013). Husserl's eidetic approach (epistemology) focused on describing an

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individual's experience while Heidegger used an ontological process of understanding the subject's personal consciousness and the use of interpretation to uncover hidden meanings (Dowling & Cooney, 2012).

Phenomenological reduction is the process by which the researcher sets aside preconceptions, personal beliefs, and experiences of the phenomenon while trying to understand the event from the subject (Converse, 2012). Eidetic reduction, or bracketing, is the distinguishing characteristic of the Husserlian phenomenology (Dowling & Cooney, 2012). Bracketing is an attempt to block what is known about the topic and discover the essence from the participant (Earle, 2010). Putting aside pre-existing knowledge and experience through bracketing prevents the subjects from being influenced by the researcher's beliefs (Dowling & Cooney, 2012; Chan et al., 2013; Earle, 2010).

Through reflexivity, the researcher identifies potential influences and holds personal values, beliefs, and perceptions in abeyance (Chan et al., 2013). By using in-depth interviews and broad, open-ended, questions the researcher can focus on the experiences of the subject (Converse, 2012). Because participants use their own words to describe the event, this approach helps mitigate researcher bias (Earle, 2010). The researcher must be open to what unfolds during the process and through the bracketing process the researcher can experience a fresh look at the phenomenon (Converse, 2012).

This study used a Husserlian phenomenological approach. This methodology supported the collection of data from the subjects to gain a better understanding of the challenges emergency managers face and how those issues affect readiness (Creswell, 2014). Since little research has occurred on this particular topic (Rocha, 2011), this approach promoted the understanding of the dynamics involved in this emerging field. Through this process, the

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researcher was able to ascertain and provide descriptive information about those emergency management tasks, priorities, issues, and challenges that have a bearing on disaster preparedness.

Research Question

This phenomenological study focused on the question: Based on the lived experiences of county and municipal emergency managers, what are the primary preparedness considerations in disaster management and the effects on readiness?

Research Design

The purpose of this study was to understand the personal experiences and capture those disaster management considerations emergency managers contend with to ensure emergency preparedness. The research focused on the municipal and county emergency managers in Central Texas. The data collected came from one-on-one interviews with both county and municipal emergency managers.

Population and Sample

This study explored the lived experiences of emergency managers located within the geographic confines of Central Texas. Study participants included both county and city emergency managers. The total number of public emergency managers for this geographic area was 15. Fort Hood is also located in this region and employed two civilian emergency managers at the time of the study.

Participants of this study were limited to county and the larger municipalities to ensure the individuals had sufficient knowledge and experience. Subjects with little experience in emergency management were excluded from the survey. To ensure the subjects had sufficient knowledge and familiarity with the issues, individuals with less than one year of municipal or county emergency management experience in Central Texas were not included in the study.

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Additionally, only emergency managers employed, at the time of the survey, by a county or city in the geographic area were surveyed. Private and non-profit emergency managers were outside the scope of this research. Participants were selected irrespective of gender, age, and race. Based on this criterion, the sampling size was 15 emergency managers. Ten subjects meeting the purposeful selection criterion were sampled. Two emergency managers from neighboring jurisdictions were used as a beta test for the survey questions.

Sampling Procedure

The phenomenon studied was the preparedness considerations affecting emergency managers in Central Texas. Purposeful sampling was used to identify subjects who have experience with this phenomenon and were willing to share their lived experiences (Bryman & Bell, 2011). Purposeful sampling allowed the selection of data-rich cases for in-depth study (Palinkas et al., 2013). This process involved identifying available individuals that were especially knowledgeable about the phenomenon being studied and were willing to share experiences and opinions (Creswell, 2014). Each participant was identified by a code name and given full anonymity.

Instrumentation

The instrumentation for this qualitative study followed a phenomenological design, with comprehensive one-on-one interviews to encourage the sharing of the lived experiences of the study participants (Creswell, 2014). Interviews were conducted with selected subjects using open-ended questions. The researcher served as the primary instrument for collecting descriptive data (Bryman & Bell, 2011). Interviews were audio recorded.

Validity

Validity of the research is dependent upon the researcher's ability to ensure the accuracy of the results through procedural steps (Creswell, 2014). Internal validity is determined by the investigator's ability to correctly identify themes and trends in the data, while external validity is measured by the extent to which the researcher's findings are applicable to other situations (Bryman & Bell, 2011). The presentation of the authors' experiences, biases, and the use of self-reflection added to the validity of the study (Creswell, 2014). Prior to the study, a beta test of the interview questions was conducted to determine the validity of the questions (Simon & Goes, 2011). The use of reflexivity and bracketing during the interview process minimized the researcher's influence on the subjects and supported the validity of the data (Chan et al., 2013). Themes were established based upon the shared perspective of multiple subjects and expressed using detailed descriptions from the various participants thus adding validity to the findings (Creswell, 2014).

Reliability

To ensure the reliability of the study, expressed protocols were followed and carefully documented, thereby, allowing others to replicate the study (Creswell, 2014). Two individuals who are not included in the study population were interviewed following the same procedures used on the subjects. This beta testing ensured the interview questions were clear and understandable without further explanation (Bryman & Bell, 2011). Interviews were recorded and professionally transcribed. Transcriptions were checked to confirm no mistakes were made during the process. The use of two independent coders, in addition to the researcher, ensured the consistency of codes and the reliability of themes (Creswell, 2014).

Data Collection

After the proposal and Institutional Review Board (IRB) had been approved, contact with the study participants began. The researcher contacted each potential subject via email, informed them of the reason for the study, and verified willingness to be interviewed. Participants signed an informed consent form (Appendix D) prior to the interview. The researcher used an interview form (Appendix F) to collect demographic information. To maintain consistency, the researcher used an interview script (Appendix E) during the qualitative interviews. Face-to-face interviews were conducted with each study participant.

Initial contact. The researcher contacted potential study participants via email detailing the request (Appendix A). The correspondence provided the interview questions and informed consent form. Follow-ups were made by email (Appendix B) and telephone. Once an individual volunteered to participate in the study, the researcher scheduled a meeting. An email reminder was sent the day prior to the interview (Appendix C). Interviews took place in the individual's work area.

Interviews. The researcher used an in-depth interview process with a prepared script (Appendix E) to conduct the interview to ensure consistency of the research design and interview process across all study participants (Rubin & Rubin, 2012). Follow-up and probing questions were used to delve more deeply into the subject's experiences (Creswell, 2014). Interviews ranged from 30 minutes to 1.5 hours in duration. Demographic data about the participants and experience levels was recorded along with field notes on the interview form (Appendix F). The researcher digitally recorded the audio of all interviews with the participants' approval.

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Interview Questions

Q1: Can you describe a typical day in your role as an emergency manager especially as it concerns disaster management?

Q2: Can you tell me about the issues/tasks that consume most of your time?

Q3: Can you describe what actions/tasks you take to ensure disaster preparedness?

Q4: Based on your experience, which tasks are the most important to ensure disaster preparedness?

Q5: Tell me about your biggest challenges to disaster preparedness.

Q6: Can you elaborate on how those challenges/issues have affected the disaster preparedness of your community?

Q7: Based on your experiences, what would you do/change to increase the community's disaster preparedness?

Q8. Can you elaborate on any policies or practices you would change to increase disaster preparedness?

Q9. Can you tell me about those disaster management issues that keep you up at night?

Q10. Are there any other comments related to your disaster management challenges and priorities that you would like to add?

Data Analysis

The interviews were transcribed by a professional transcription service and converted to Microsoft Word format. Transcriptions were verified by reading the text and listening to the digital recording. Themes and categories were extracted from the transcripts and analyzed. Thematic analysis technique of encoding, analyzing, and developing themes was used (Maxwell, 2013; Weston et al., 2001). Two volunteers, not associated with the study participants, were used

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during the coding process. Once trained, coders independently organized and color-code the data to generate themes, similarities, and establish categories (Bryman & Bell, 2011). The researcher also separately identify themes and patterns. Once the coding process was complete, the two coders collaborated to obtain agreed upon themes. The coders then meet with the researcher to come to a consensus on the final themes. Use of interdependent coders helped eliminate researcher bias and maintain objectivity.

Ethical Considerations

Ethical considerations and human subject protection are obligatory elements of research (Rubin & Rubin, 2012). It is crucial to the researcher, the institution, and the associated profession that proper behavior is used while conducting research and presenting the results. All research actions should follow established guidelines, be genuine, and humane (Joyner, Rouse, & Glatthorn, 2013). Unethical behavior not only brings discredit upon the researcher, but also may nullify the project, and taint affiliated establishments (Rubin & Rubin, 2012). Unprincipled conduct jeopardizes all individuals involved (Creswell, 2014).

Understanding and documenting the issues and risks associated with the particular research in question are the first steps to ensure ethical behavior is followed (Creswell, 2014). Acknowledgment of contributors must be given, and results must be reported honestly and objectively (Joyner et al., 2013). Personal biases and agendas must remain outside the process (Creswell, 2014). Additionally, there are numerous human subject consideration associated with research: (a) safeguarding participants from harm; (b) informed consent; (c) showing respect; (d) protecting privacy; and (e) not using deception (Bryman & Bell, 2011; Rubin & Rubin, 2012). By ensuring human subjects are protected, researchers can build a trust with the participants while protecting the integrity of the project and avoiding any transgressions (Creswell, 2014).

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In this endeavor, engagements with the research participants consisted of verbal discussions. No testing or harm occurred to any individuals. There were no vulnerable populations among the participants. Identities of the subjects have been concealed and protected. All the respondents were briefed on the objective of the research and volunteered to participate in the study. No attempt to disguise or hide the purpose of this project was made. Communication with the study subjects was truthful and straightforward. Participants were provided interview questions (Annex A) and signed an informed consent form (Annex D) prior to committing to this venture. Deception and covert observation were not used. The relationship between researcher and the respondents was professional and unambiguous. Additionally, this study was not sponsored by any external organization or entity to preclude any conflict of interests. Finally, all work, notes, and transcripts have been properly stored and safeguard.

Summary of Chapter Three

The research methodology and design the researcher used to accomplish this study was chronicled in this chapter. This study used a phenomenological model to capture data from the participants. The use of thematic analysis provided insights into the lived experiences of emergency managers. The next chapter includes the data collected and a discussion of the findings. Chapter Four also details the participant's demographics.

The purpose of this research study was to explore the considerations emergency managers must contend with to ensure their communities are prepared for disasters. The researcher used a phenomenological study to identify the pre-crises disaster management tasks, priorities, challenges, and issues affecting county and municipal emergency managers in Central Texas. This chapter addressed the opinions and perceptions of local emergency managers gained through a qualitative study using individual interviews.

This phenomenological study used open-ended questions to explore the lived experiences of local emergency managers (Moustakas, 1994). This data collection method allowed the researcher to identify the principal issues confronting practitioners in the field of disaster management within the boundaries of the study (Edmondson & McManus, 2007). Research subjects were asked 10 questions using an interview script to gain an understanding of the considerations dealing with disaster preparedness. The study participants' responses were analyzed by two independent coders and the researcher. Ten participants were purposely selected from the 15 emergency managers within the geographic confines of the study based on the selection criteria. The subjects were interviewed over a five week period. Chapter Four is structured into five sections: data collection procedures; participants' demographics; presentation of data; presentation and discussion of findings; and summary of the chapter.

## Data Collection Procedures

After the Institutional Review Board approval, the researcher initiated the data collection process through email contact with the 15 emergency managers within the confines of the study boundaries. Each prospective subject was emailed a request (Appendix A) with the interview

questions and an informed consent form (Appendix D). Follow-ups were made by email (Appendix B) and telephone. Once an individual volunteered to participate in the study, the researcher scheduled a meeting. An email reminder was sent the day prior to the interview to the study participants (Appendix C). All interviews were conducted face-to-face in the subject's work area. Ten subjects were selected to participate. Of the 15 emergency managers contacted, two emergency managers did not meet the study criterion and three individuals declined to be interviewed for various reasons. Two additional emergency managers not in the sample population were interviewed and used as a beta test. Interviews lasted from 30 minutes to 1.5 hours. Surveys were conducted following the interview protocols established in the previous chapter.

Participant Demographics

The sample population (n=10) signed interview consent forms and gave permission to be digitally recorded. Alphanumeric codes (researcher's initials and interview sequence number) were assigned to each participant to protect the subjects' identity. The sample population consisted of eight males and two females (MB03-MB12). The participants' cumulative experience in disaster management ranged from four to 45 years in one of several emergency management functional areas (see Figure 2). Study participant backgrounds ranged from law enforcement, fire department, city administration, emergency medical service, elected official, and school trained emergency managers.

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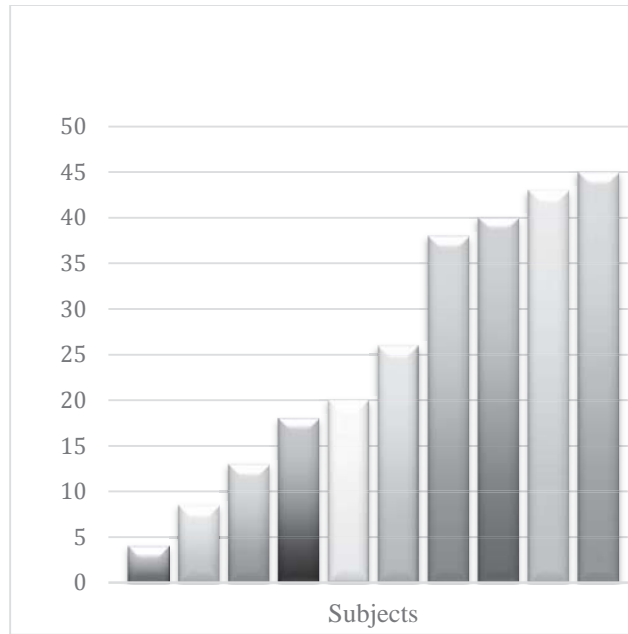
Figure 2. Emergency Management Experience Levels. The numbers represent the total years of experience of each participant within the various emergency management functional areas. Participant emergency management experience ranged from four to 45 years.

All study subjects were either county or municipal emergency managers from the Central Texas region with one to 16 years in their current positions (see Figure 3). Three participants were city emergency managers, four subjects were county emergency managers, and three individuals shared responsibility with one or more municipalities (see Figure 4). Four of the subjects were part-time emergency managers with their primary duty consuming most of their time. Two participants were full-time emergency managers with additional duties assigned. Of the remaining four subjects, all were full-time emergency managers with three of the participants not assigned any extra responsibilities and one subject supervised a small emergency management staff (see Figure 5). Four of the emergency managers were responsible for areas with populations under 20,000. Three of the participants managed regions between 20,000 - 50,000 people. Three of the subjects were in charge of localities with populations ranging from 50,000 - 250,000 (see Figure 6).
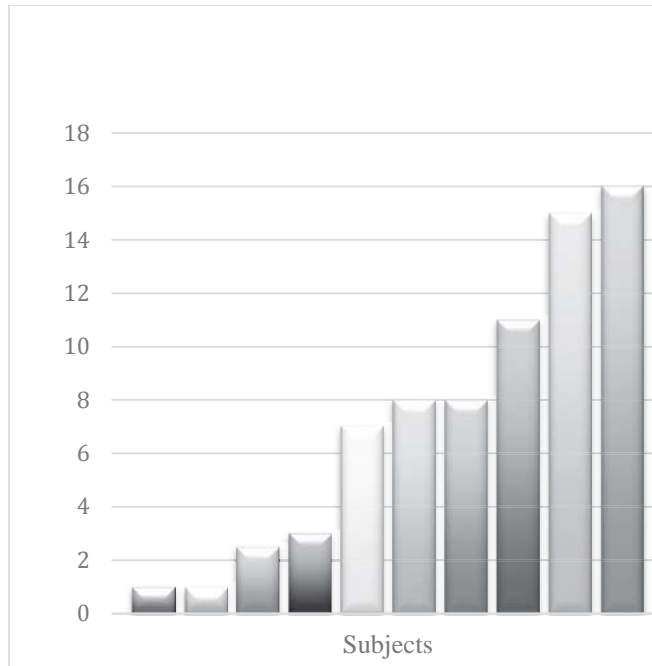
Figure 3. Time in Current Position. The numbers represent the total years of experience of each subject in their current position as an emergency manager. Participant experience ranged from one to 16 years.

Figure 4. Emergency Management Responsibility. This chart depicts the various emergency manager responsibilities. Three of the subjects were city emergency managers, four participants were county emergency managers, and three emergency managers shared responsibilities with one or more municipalities.

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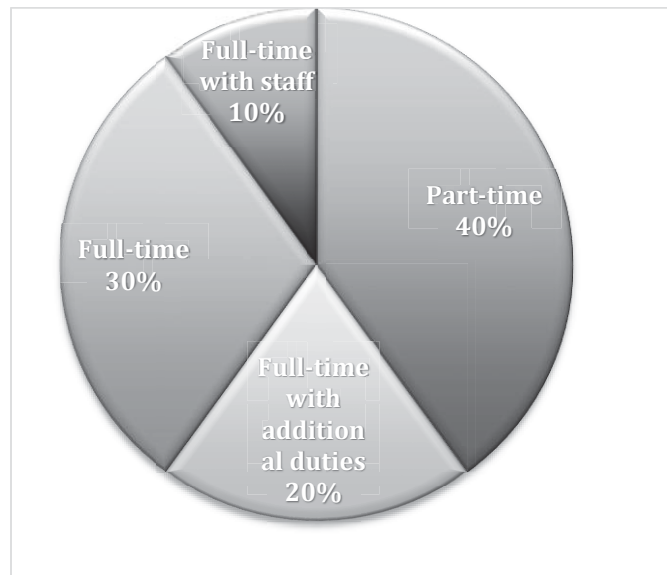
Figure 5. Emergency Management: Full-time vs. Part-time. The chart reflects the difference in the amount of time the subjects were available for emergency management duties. Four of the study participants were part-time emergency managers with their primary function consuming the majority of their time. Two subjects were full-time emergency managers with additional functions assigned. Three study subjects were full-time emergency managers with no other duties performed. One subject was a full-time emergency manager with supervisorial responsibility for a small staff.

Figure 6. Population Responsibilities. Population densities within the responsibility of each emergency manager varied from rural areas to metropolitan regions. Four subjects were responsible for areas with a population under 20,000. Three study participants managed regions

between 20,000 – 50,000 people. Three emergency managers were in charge of localities with populations ranging from 50,000 - 250,000.
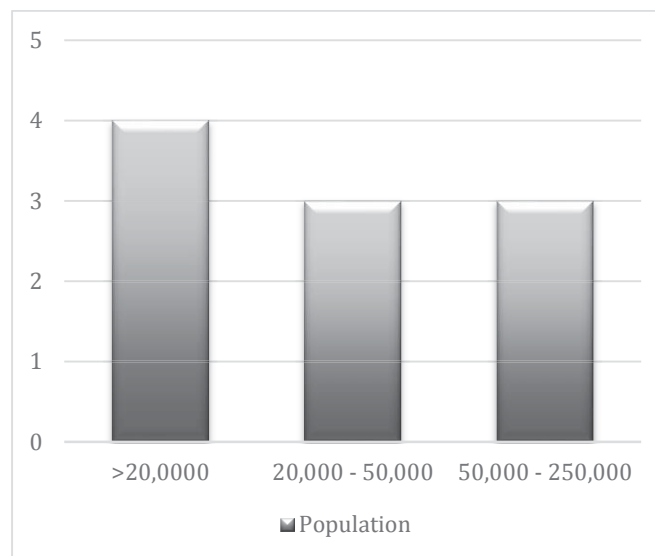
Presentation of the Data

The interview questions prompted the participants to discuss their respective diurnal disaster management tasks and challenges. Interviews were transcribed verbatim by a professional transcription service. The researcher verified the transcription by reading the text and listening to the recording. Prior to conducting the 10 interviews, a beta test was conducted with two emergency managers (MB01, MB02) who were not in the sample population, following the same protocols. The test interviews were not included in the study, but were used to train the coders.

Themes

A thematic analysis technique of coding, analyzing, and developing themes was used (Maxwell, 2013; Weston et al., 2001). The coders read each transcript in detail independently. The coders and researcher met three times to agree on themes. Coder #1 recommended four themes. Coder #2 proposed three themes. After meeting with both coders and discussing their findings, the researcher and coders agreed on three themes. The three common themes that emerged are depicted in Table 6. Although several other considerations were mentioned, there was insufficient repetition to support the identification of a separate theme. The three themes are:

(1) Planning is a significant task for emergency managers.

(2) Public outreach is a major part of emergency management.

(3) Collaboration is a significant function for emergency managers.

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Table 6.

Themes

Themes	Theme Frequency	Percent of Subjects
1. Planning is a significant task for emergency managers	10/10	100%
2. Public outreach is a major part of emergency management	10/10	100%
3. Collaboration is a significant function for emergency managers	10/10	100%

Theme #1. Planning is a significant task for emergency managers. All 10 study

subjects (100%) responded that writing, reviewing, and updating plans were a significant part of

their job as an emergency manager (MB03-MB12). Discussions with the participants also

revealed that task overload was a major challenge with respect to emergency management duties.

Study subjects also highlighted that planning considerations are different in rural areas as

compared to urban regions.

Participant MB09 commented: "I think pre-planning is always, to me, the most important

thing." Subject MB07 explained: "We tend to spend more time working on emergency

management issues with respect to maintaining our plans and working on updating plans."

Participant MB11 added: "We have a continual process of updating emergency plans…it's a

perpetual, ongoing process, so this year we might be working on the legal annex, but next year

we might be working on evacuation." Similarly, subject MB08 voiced how the planning process

is continuous:

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Once finished going through emails and making sure that's all taken care of, then we move directly to planning and working on making sure that our plans are fluid, because right now the city has grown so much over the last few years…Our infrastructure has changed so much, so it is a daily change, something is always changing our plans.

According to subject MB12, one of the lessons learned from the fertilizer plant explosion in the nearby town of West was that plans need to include all the essentials elements of information and should not be depended on particular individuals to execute. Subject MB12 pointed out:

Making sure the plan is adequate. That's one of the things we learned at West. That was the epitome, I think, of not having a plan and having to write a plan on the fly, and key people in that plan were gone. They were gone in the explosion.

Study participant MB06 described an emergency management planner as someone who will: "Try to figure out the worst-case scenario and try to have it 90% covered…you work and live in a black hole, so nobody else has to." Subject MB04 expressed that emergency management planning is attempting to "be ahead of emerging threats" and "if we can't put a zero on that risk, it's my job to be thinking about it." Subject MB07 summed up the significance of planning:

Hopefully nothing ever happens, but if it does at least you've had the opportunity to have been given and challenged to put together a plan, to know where your resources are, to know what your capabilities are, to know what your limitations are, and have a plan to fill in the gaps. That's a good thing. The more we talk about it and think about it, and plan for it…then when something does happen, then we're prepared...You've got to plan because if you save one person's life, or salvage one property, or prevent something from happening, I think it's all worth it.

Correspondingly, participant MB08 concluded:

Planning is the most important thing. It really is...It's in a category of preparedness, so it's planning, it's training, it's exercising. Our whole preparedness model that we go through, that's the most important thing that we do is making sure that everybody's plans are up to scale and everybody is on the same page so that everybody knows what to do in training on that and then testing that by doing an exercise. That process is the most important thing we do to be prepared.

Task overload. All 10 study participants (100%) responded that task overload was a major concern with respect to the job of emergency management (MB03-MB12). Six of 10 study participants noted that other assigned jobs kept them from emergency management duties (MB03, MB04, MB05, MB06, MB07, MB09). Four of the participants (MB03, MB05, MB07, MB09) have a full-time job and execute emergency management as an additional duty. Study participant MB03 expressed: "On a daily basis, emergency management doesn't occupy a large percentage of my time." Participant MB05 echoed: "In a typical day as my role as emergency manager, emergency management is a smaller portion of my job as compared to anything else that I do." Additionally, two of the participants (MB04, MB12) noted that despite being full-time emergency managers they also have many additional jobs and tasks. Participant MB12 articulated: "The last time I counted, there were 14 hats that I wear." Participant MB09 explained:

> Well, the biggest challenge is finding the time to do all of this, and do your other job. That's why I think the biggest challenge for the county is to realize this, or make people realize, this is a very important job. I think a lot of people don't look at it as an important job. They think emergency management is just a guy that goes out there and hands you out some money when things happen. They don't realize all the preparation that goes into being ready to hand you out some money.

Eight (MB05, MB06, MB07, MB08, MB09, MB10, MB11, MB12) subjects highlighted administrative tasks as over burdensome and a distractor from emergency management functions. The discussion with the participants revealed administrative workload included emails, phone calls, meetings, budgets, reimbursement paperwork, and submitting data to higher entities. Participant MB11 expressed: "I spend a lot of my time on the administrative side of the house…more so than actually penning a plan." One subject described: "Many times, during the day I'm pulled away from the planning process to meetings…there are so many meetings it is

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ridiculous. Then, email, I receive up to 200 emails a day…" (MB08). Subject MB10 concluded:

"It's the day-to-day management of different things that just gets thrown in the mix…there's so

many different things that get thrown at you."

Four subjects (MB05, MB06, MB09, MB12) claimed frustration with completing state

and FEMA paperwork. Subject MB06 responded that FEMA paperwork and bureaucratic

mandates take an exorbitant amount of time to complete. "Ninety percent of this paperwork that

you see is just leading up to making sure that you're doing what FEMA wants you to do"

(MB06). In addition to standard administrative tasks, subject MB05 pointed out that state and

federal entities have increased the administrative load:

> In the State of Texas, we have the Texas Resource Response Network, which in that web-based database, we go in and we enter in all of our response assets that we could potentially allow to travel to other parts of Texas if there is a disaster. Now, the feds want essentially the same information. They want it into their federal programs. I know nothing about this and I'm now having to read this information and decipher it. This consumes my day...I have to answer to two, three, four, or five different entities throughout the course of the year to give them the same of information. That's a bit of a challenge, just to be able to give them that. That probably consumes the majority of my time.

Participant MB10 shared additional exasperations: "…we're trying to get a grant complete, we

send it in, they send it back saying, 'You need to change this.' You change it and send it back.

Then they send it back to change this. It gets very frustrating." Participant MB09 remarked:

"Every agency in the state has something for you to do. It's been very hard for myself to balance

that between that and my other duties."

Planning considerations. Seven (MB04, MB6, MB7, MB8, MB9, MB10, MB12) of 10

study subjects highlighted that emergency management requirements in rural areas are different

than urban conditions and require additional considerations. The discussions with the subjects

revealed the distinctions stemmed from funding that affects resources and approaches to

emergency management, as well as, population density and area of responsibility. Participant MB04 said, "We face a different set of challenges than they do in Dallas." "There's cultural differences, there's population differences…getting people sensitized to understanding what works in the big city, or in a very urban county may not work out here" (MB07). Subject MB04 went on to explain:

> We're not resource rich like they are in bigger cities...If we had more funding I think we could do better in preparedness, management overall. We do the best we can with what we have. We're limited on our resources. Again it all goes back to funding.

Participant MB07 pointed out that: "Not being a full-time emergency management coordinator and living in a very small, rural, remote town, our emergency management activities go in spurts." Subject MB10 noted: "Rural areas have small staffs." One participant added: "When you come down to this local level, it's a one-person job" (MB09). Subject MB07 articulated:

> I think our biggest challenges here are our lack of manpower, our lack of equipment, our lack of capital dollars. We are a small rural city in a very small rural county, so anything we do requires a lot of volunteer coordination, as opposed to paid, full-time staff. Pulling all that together becomes, I think, the greatest challenge to preparedness…To me, I think it's a size issue, an access to funding issue, and then relying on volunteers for a lot of our response and getting them trained to be prepared when we respond.

Participant MB04 claimed: "We do things a little different out here than in the urban environment." "We're not a Metroplex. We don't have the facilities or the mass notification that I would have if I was in Dallas. I got nearly 1,000 square miles of county to cover" (MB12). Subject MB06 added:

> At this point, I can't do an EOC [emergency operations center] the way the state wants, but I can do what works for us...There are just some things we can't do because of our size or because of what we don't have.

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"We don't have the funding to do anything like you can do in Dallas…we have to do what we can...using social media, flyers, trying to go to the community events and handing things out" (MB04). Additionally, subject MB07 voiced: "We have very limited resources…We have got to work cooperatively with other political subdivisions, whether it's the county, the school, the state, our neighbors…" Study participant MB12 summed up the differences as:

> The bottom line is when you're in a rural community, and dealing even in a disaster, when you deal with FEMA and you deal with the federal government, they do not understand rural...Everything they do primarily is urban, and you can't take urban rules and make them work in a rural community. There's infrastructure problems. There's all kinds of things we deal with that they don't deal with in Waco or Dallas.

Subject MB07 recommended:

> I would encourage at the upper levels [state and federal governments] to think about one size doesn't fit all…some of the planning really makes sense if you live in Dallas County, but you come to a small rural county…I'm dealing with a community that has a volunteer fire department...no full-time staff dedicated to providing some of the response services.

Theme 2. Public outreach is a major part of emergency management. All 10 study participants (100%) responded that public outreach was a significant part of their job as an emergency manager (MB03-MB12). Discussions with the study participants revealed that public outreach entails education, communicating information, addressing various groups, and answering citizen questions. Also noted during the interviews were outreach problems with emergency notification, challenges with apathy, and the importance of building resilience in the community.

Participant MB04 shared: "I spend a lot of time in preparedness, getting information out to the citizens…getting the hazards out there…" Several study subjects (MB05, MB11) articulated spending a substantial amount of resources in coordinating and conducting public education classes: "…disaster preparedness really goes back to the citizens and letting them

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know that a disaster can occur" (MB05). Subject MB05 emphasized: "We try to do public education. That's one of the biggest things that we try to do." Participant MB11 noted a priority of that jurisdiction was: "…educating the public on what to do in the event of a disaster." Likewise, subject MB05 expressed: "We are constantly trying to get information out. That's part of our disaster preparedness." Participants MB07 and MB10 felt that public engagement was one of the two most important tasks of emergency management. "We're always trying to educate the public" (MB10). "Public education ends up consuming a lot of my time…I get a ton of questions from the public on how should we do this, what is the city doing for this, things of that nature" (MB08). Participant MB10 concluded that public engagement is an essential function of emergency management:

> ...public awareness, trying to get that message out there. They need to understand what they need as far as home kits and what to do, who to call during a disaster, where they get the information from if they're looking for information.

To have an effective community outreach program, participant MB11 recommend:

> …you've really got to keep your message fresh in order to keep in the forefront of their mind. You've got to figure out how to adjust that message. You can't just keep doing the same things over and over and over, expecting different results…That changing is really the challenge, overall, as long as you keep your message out there, as long as you're upfront, as long as you're putting it out there, even if people don't realize they're taking that away.

Public notification challenges. Eight out of 10 study subjects (80%) also responded that public outreach was a significant challenge during an emergency (MB03, MB04, MB05, MB06, MB07, MB10, MB11, MB12). Although multiple means (websites, social media, sirens, TV, newspaper, weather radios, and reverse 9-1-1) of notification were discussed, all eight participants expressed frustration with the effectiveness of contacting the public during an emergency. Participant MB12 commented: "I think the biggest challenge would be, how do I get

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the word to those people effectively?" One study participant noted that emergency notification is

a substantial challenge to "keeping them informed…without scaring them" (MB03). One of

participant MB10's greatest concerns is the community not getting essential information in an

emergency: "...it goes back to the community as a whole not being able to get the information

that they need…it's just imperative that they have that information…" Subject MB12 expressed:

"It's a constant battle for me looking for ways to make sure that people know what they need to

know."

Several subjects (MB03, MB05, MB10) expressed frustration with individuals not

signing up for reverse 9-1-1 system. Participant MB03 explained:

> I don't know what else we can do. We use a reverse 9-1-1 system called Code Red…You
> can put in your cell phone number, if you want a text, if you want a phone call, or how
> you want to be notified. We try to encourage people every time I speak to groups, to
> encourage people to do that. We still don't have everybody in town registered on that.

Subject MB10 also elaborated on the failure of the public to utilize reverse 9-1-1 system:

> I can't get anybody to sign up for Code Red [reverse 9-1-1]...People are really reluctant to
> put their cell phone information in any kind of database…Nobody has a landline
> anymore. That's made that difficult to notify when there is a grass fire or there is a
> tornado or there is bad weather to those people in outlying areas or even in the city
> because they don't have a landline. As soon as the electricity goes off, you have no
> communication with the outside world, so that's about the only way they're going to get
> notifications.

Several participants (MB04, MB12) identified the lack of a local television channel as a

hindrance to distributing emergency information. Participant MB12 further mentioned: "We

don't have local television…It's a constant battle for me looking for ways to make sure that

people know what they need to know." Subject MB04 narrated:

> The local TV channels we have out here really aren't local for this county. They cover
> this county, but you can't get any air time or anything like that. The newspapers we have
> a great relationship with, but they're weekly. That can be a challenge. We use social

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media a lot. I know everybody is on social media. Getting the message out there and trying to reach everybody is a challenge that we face out here.

Study subjects MB07 and MB12 specifically mentioned the importance of timeliness: "The thing I think about is can we speed up our communication and advance warning of certain types of events" (MB07). Participant MB12 elaborated:

> I've got a system in place that functions, but it's not a warning system. It is a notification system, like the burn ban, where I've got three hours, and the call goes out to all the people in the county. They get notified, but if a tornado is fixing to hit them, three hours later the message [arrives]…That is the biggest challenge, I think, in what we do in preparedness, is how do we get the word out.

Three subjects (MB03, MB04, MB05) responded that emergency sirens were also problematic. "There's a lot of problems with emergency sirens…a lot of people don't hear those sirens" (MB03). Subject MB05 revealed: "We don't have disaster sirens or tornado sirens for everyone…" Participant MB04 noted:

> We do our best to try to get tornado warnings out to the public, but we can't put a tornado warning siren on everybody's house...If we had 4 million dollars we could put sirens everywhere, but we don't have 4 million dollars.

Apathy. Six (MB03, MB04, MB05, MB08, MB10, MB11) out of 10 study subjects responded that in dealing with the public, apathy was a major concern of emergency management. Participant MB11 claimed: "Apathy, that's the main challenge..." Subject MB03 echoed: "Probably the biggest obstacle is most people think it's not ever going to happen here...I guess apathy is the biggest obstacle." Study participant MB10 added: "You try to give them publications and stuff. They don't seem to read it until there's a crisis and then they want to know 'Where was the information?' (MB10)." One study participant claimed: "This area sees emergency management as an afterthought. It's not just this city, its region-wide" (MB08). Similarly, participant MB05 responded: "Quite frankly, they probably think it's not going to

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happen to me." Subject MB10 articulated: "It's hard to get the public to pay attention before something happens." Participant MB04 further mentioned:

> I think you always have some of the community that just buries their head in the sand and, "That won't happen to me so why am I worried about it" kind of thing. Even if you do tell them, they're not necessarily going to take it for what it is…To me, it's frustrating…It falls on deaf ears. It's frustrating at times trying to go out there and help us help you by doing some of this stuff and people are like, "That will never happen."

Subject MB11 expressed frustration:

> What my experience has taught me is that, for the most part, the general public does not think about emergency management, or disaster preparedness, or being prepared, until that time something bad happens. Then you have a certain group that says "We didn't know," even though it's been advertised and publicized and everything else, because you don't pay attention to it until you need it. And then once you need it, you assume nobody's done it, or if they have done it, you weren't told about it, which is not the case. From my end of it, understanding that, that most citizens don't really pay attention until they need it.

Three subjects (MB05, MB06, MB10) also felt concerned about high levels of apathy among certain populations. During the discussions, the subjects stated due to the prominently of Fort Hood and several universities there are large numbers of transient populations that tend to be younger and less concerned with being prepared. "They are out of the house for the first time. They are worried about things that teenagers or young adults worry about…they are not worried about much else" (MB05).

Study participants MB11 and MB05 highlighted public participation in education classes has been very low despite their efforts to cater to the various segments of the population. "We did three educational classes. We planned them out months in advance…we did a weekday, weeknight, and a Saturday…we advertised…15 people showed up" (MB05). MB11 reflected on the reasons for low interest in preparedness:

> The question is, the ones that aren't showing up, are they not showing up because they didn't see it or are they not showing up because they didn't see the need for it, or are they

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not showing up because they think they're prepared already? Those are the questions that really need to be looked at.

Participant MB11 surmised: "It stands to reason, if people don't show up or don't pay attention, obviously that's going to impact that [emergency management]. It's cause and effect." "Simply just being a little bit prepared can be a significant positive impact…" (MB05).

Resilience. Seven out of 10 study subjects (70%) answered that building resilience in the community is an important function of emergency management (MB03, MB04, MB05, MB06, MB08, MB10, MB11). Although the term resilience itself was never expressed, all seven of the subjects identified key concepts of increasing community resilience as being critical to emergency management. Concepts discussed include understanding the risks; having a plan; having a relocation strategy, and having extra supplies of water, food and cash. Participant MB10 noted the biggest challenge is: "getting the community to be prepared…we're trying to do public preparedness constantly." Subject MB05 articulated the importance of having a resilient community:

> I think that ensuring disaster preparedness really goes back to the citizens and letting them know that a disaster can occur and it can happen to you. We as a community, we only have the ability to help a small segment of our population should a disaster occur. That is the reality…To be quite honest with you, any citizen that is prepared is a citizen that will probably be the one that's not calling us for assistance. My biggest challenge is getting the citizens to prepare. Just getting information in their hands, getting knowledge into their brains to let them know how important it is for them to be prepared for themselves. The reality of the situation is we do not have the ability to help all the people in our community simultaneously.

Participant MB04 echoed the importance that a resilient citizen reduces the burden on civic authorities during a disaster:

> That is something that I've been big in since I've been out here, just because if we can have citizens that know what the risks are and what's some action they can take to prepare themselves when that risk does happen…That's one less family we necessarily have to try to worry about.

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Although all seven subjects (MB03, MB04, MB05, MB06, MB08, MB10, MB11) discussed the importance of educating the public on being more resilient, participant MB03 was adamant about training and educating the community to maintain a defensible space around their property by cutting trees and brush from around their house: "We've given educational programs on it [defensible perimeter] and set up on Saturdays and invited everybody that lives out in these areas." One subject described: "If you don't look out for yourself, you will probably be stuck out if something happens…it could be days, it could be weeks, it could be months before assistance is received" (MB05).

Study participant MB11 highlighted the importance of working with local business to increase their resilience through Continuity of Operations Planning (COOP). Subject MB11 narrated:

> What we're trying to do, what we're planning on, is to engage those discussions, and just get them sort of thinking about that process, and developing the plans. It's a two-fold deal, because if we partner with those businesses, they know who we are…But also we'll know what resources they have, if they want to assist us if we do have a disaster, if we needed them. I'm not saying we would, but if we did need them, then we would know what's out there.

Subject MB05 concluded:

> I will just try to simply say that the citizens in every community really need to take an active role in preparedness for themselves. They need to quit thinking…"Oh, the government will come and handle it and they will help me and they will take care of it." They need to get out of that mindset and they need to get into the mindset of preparing for themselves. It's just simple stuff.

Theme 3. Collaboration is a significant function for emergency managers. All 10 study subjects (100%) identified collaboration as an important function and integral part of emergency management (MB03-MB12). During the interviews, the subjects identified that collaboration occurs both internal and external to their respective organizations. According to the

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study participants, collaboration entailed working with other departments within the organization, local first responders, other county offices, state agencies, floodplain coalitions, elected officials, neighboring jurisdictions, local community, media, weather service, volunteer groups, medical practitioners, various law enforcement officials, and numerous partners. One example of this was expressed by subject MB08:

> Emergency management is all about relationships. The relationships that we've built on the regional basis and the state basis to ensure that should something happen to this city, we know that we're going to be overwhelmed because we don't have enough fire stations, don't have enough police officers. Our emergency staff is limited....we make sure that we have the relationships on a regional basis and state basis so that all we got to do is make a phone call.

Study subject MB06 noted: "If you don't build up your network in your county, then you're missing out on one of those little bitty things that's going to keep you up at night once it's happened." Participant MB04 also relayed the importance of collaboration:

> …making contacts, establishing relationships, those kind of things with our outside partners because we don't have lot of resources out here so when big things happen we rely on our neighbors quite a bit, as it's important to have those relationships established so when we make those calls they know exactly who we are and what we're asking for, exactly what we need, and they can help us by sending it.

Subject MB06 spoke of the benefits of regional collaboration: "I like that we've now taken it regionally…I have access to the equipment and the resources and the people within the region…" Three participants (MB07, MB10, MB11) articulated how they rely on collaboration by sharing jurisdiction responsibility with one or more municipalities. Participant MB11 revealed how collaboration has become critical approach to emergency management:

> We operate in an inter-jurisdictional plan, which means we coordinate and we facilitate the writing of the plan for the entire county out of this office. We have meetings, regular meetings, with the other emergency managers in our county to provide input on updates, or changes that might occur to specific annexes to the emergency management plan.

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Subject MB08 described the benefits of their collaborative approach with neighboring jurisdictions:

> Unified, we're going to be able to get a lot more done than the city fighting for a system to be put in place. Now, that we have each one of the cities working together, it's going to be a lot more easy to bring the mayor, the city manager, the judge, the commissioners on board. This is something that, as a county, we're attacking rather than just as a city.

> Collaboration is not without its challenges; subject MB05 pointed out: "…there is always a challenge to try to get people to shift their focus and get away from what is day-to-day..." Although acknowledging the benefits of collaboration, participant MB06 commented on the frustration with collaboration: "I keep pushing and prodding…you walk a little fine line of territory…" Participant MB03 felt the benefits of collaboration outweighed the drawbacks:

> As long as all the players know each other, and can play well with each other, and don't get their egos in the way of things going on, we usually, we'll do a pretty good job of managing whatever is thrown at us.

> Several participants (MB05, MB08) also relayed that apathy not only pertains to the community but affects their municipal organizations. Subject MB08 pointed out that apathy with city administrators influences the allocation of funding: "That's a hard thing in getting the funding and support because many people still see that it's never going to happen to me, it's always going to happen to somebody else" (MB08). Subject MB05 explained that apathy is a challenge with staff preparedness and conducting exercises:

> When we had our disaster preparedness meetings, drills, exercises, discussions and otherwise. Everybody is in the room and leaning back in their chair. Their eyes are rolling and drifting off and sleeping. They have their smart phones out and they are playing on it. Who knows what they are doing because they want to be anywhere but right there because they don't want to hear about, "Well, if something bad happens, this is what we are going to do." They don't care because nothing has ever happened to them in their lifetime. They don't know anybody who has been affected. They probably don't have any concept of what it's going to be like. It's boring to them.

Participant MB12 concluded that emergency management is a coordination process:

Emergency management is the parts guy. If I go out on the fire, my job is not to tell them what to do, even though I may be the most qualified, more schooled person. My job is not to tell them what to do. My job is simply there to go, "Yes, what do you need? What can I do to make your job easier?" And do my best to make that happen.

Presentation and Discussion of Findings

The researcher obtained this data from open-ended interviews with 10 subject matter experts to gain an understanding of the shared experiences and perceptions of the individuals that have experienced this phenomena (Groenewald, 2004; Merriam, 2009). This chapter identified common themes from the participant's responses. This portion of the study also described the participants' demographics and how the coders and researcher analyzed the data.

In this study, the researcher explored the lived experiences of the subjects to identify considerations emergency managers contend with to ensure crisis readiness in Central Texas. The discussions with the study participants revealed numerous tasks, priorities, challenges, and issues facing emergency managers in this area. These results reflected several tasks and issues that are a priority for emergency managers in Central Texas. Additionally, several challenges and problems emerged that must be taken into consideration to ensure disaster readiness in this region.

Summary of Chapter

This phenomenological study was designed to capture the lived experiences of emergency managers in Central Texas. The researcher presented the study results in a narrative format. This exploratory study revealed three themes that were germane to pre-crisis disaster management. The discussions revealed numerous diurnal dynamics affecting county and municipal emergency managers in Central Texas. Chapter 5 contains the researcher's

interpretation of the data, findings, and conclusions; limitations of the study; implications for practice; and recommendations for future studies.

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CHAPTER FIVE

The purpose of this chapter is to provide an analysis of the data gathered from this research. This section begins with a brief summary of the topic, restates the methodology used for the inquiry, and reviews the population of this exploration. This chapter also presents a summary of the findings and conclusions; discusses the limitations of the study; conveys implications for practice; offers recommendations for future research; and concludes with a summary.

Findings and Conclusions

The purpose of this research study was to explore the considerations emergency managers must contend with to ensure their communities are prepared for disasters. Disaster preparedness dynamics at the county and municipal levels of government have received little academic attention and are not thoroughly understood (Deverell, 2012; Rocha, 2011). Accordingly, the extant literature does not adequately address this issue. The central research question that guided this study was: Based on the lived experiences of county and municipal emergency managers, what are the primary preparedness considerations in disaster management and the effects on readiness?

The researcher used a phenomenological inquiry to identify the pre-crises disaster management tasks, priorities, challenges, and issues affecting county and municipal emergency managers in Central Texas (Edmonds & McManus, 2007). This exploratory method of data collection was utilized to capture the experiences and opinions of the study participants (Palinkas et al., 2013). The qualitative methodology used is chronicled in Chapter Three. The interviews with the subjects were audio recorded and professionally transcribed. The researcher and two

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independent coders extracted themes from the transcription data. Purposeful sampling was used to identify subjects who had experience with this phenomenon (Bryman & Bell, 2011). This research study emanated from in-depth interviews with 10 county and municipal emergency managers.

Summary of the Results

This section summarizes the study's results. The responses of the subjects are detailed in Chapter Four. This qualitative approach produced rich data and provided insights into the lived experiences of the respondents (Creswell, 2014). While some of the discoveries are consistent with the existing literature, other dynamics revealed provide new insights into the phenomenon. The data is interpreted through each of the three themes that were ascertained through the shared perspective of multiple subjects using a Husserlian phenomenological approach (Dowling & Cooney). The following is a synopsis of the findings.

Theme #1 (Planning is a significant task for emergency managers). One hundred percent of the study subjects indicated that writing, reviewing, and updating plans were a large part of their job as an emergency manager. All research participants also perceived that task overload and administrative requirements were prime challenges that affected their ability to plan and conduct other emergency management duties. Seventy percent of the respondents also highlighted that planning considerations are different in rural areas as compared to urban regions.

Theme #2 (Public outreach is a major part of emergency management). One hundred percent of the study subjects responded that public outreach was a significant part of their job as an emergency manager. Community engagement included education, communicating information, addressing various groups, and answering citizen questions. Seventy percent of the participants emphasized an important aspect of outreach is building resilience in the community.

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The majority of those interviewed also related several challenges with civic interaction. Eighty percent of the respondents noted emergency notification was problematic. Additionally, sixty percent of the participants voiced problems with apathy.

Theme #3 (Collaboration is a significant function for emergency managers). One hundred percent of the study subjects identified internal and external collaboration as an important function and integral part of emergency management. Although a critical aspect of pre-crisis management, respondent feedback revealed several challenges with collaboration.

Interpretation of the Findings

The data was analyzed and grouped into themes using textural descriptions that enabled a better understanding of the observations and experiences of the respondents (Maxwell, 2013; Weston et al., 2001). Three themes emerged from the information collected. Within these themes, the subjects highlighted several pre-crises disaster management dynamics affecting emergency managers in Central Texas. The following discussion is based on the researcher's knowledge and expertise with the research topic.

Theme #1. The data obtained indicated a primary task for the study participants was emergency planning. The State of Texas (2015) directs the development of 22 specific plans and the frequency in which those contingencies are updated. All subjects articulated that state planning requirements were a substantial influence on workflow and planning efforts. Furthermore, respondents described planning at the local level as a continuous process that is delimited by multiple internal and external dynamics.

Proximity to risk factors and participation in external organizational exercises were noted by the study participants as major planning considerations. Depending on propinquity, several emergency managers were engaged in preparation efforts with Fort Hood, Comanche

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Peak Nuclear Power Plant, the Texas Colorado River Floodplain Coalition, corresponding Council of Governments, local medical facilities, and nearby universities. Additionally, prior exposure to certain events tended to influence planning efforts. For example, over the last several years there have been two active shooter incidents, several large wildland fires, historical flooding, multi-day potable water outages, tornado damage, and a fertilizer plant explosion in the region. The data obtained suggested the emergency managers that responded to those incidents tended to focus more on planning for those circumstances than those less affected by those past situations. While preparation for the most pertinent risk is prudent, contingency planning must also focus on future threats and not get fixated on past events.

All study participants pointed out significant issues with task overload and administrative burdens that inhibited emergency planning and pre-crisis disaster management. A majority of the respondents emphasized non-emergency management duties and administrative obligations were the foremost contributing issue with task overload. These distractors emanated from internal human resource decisions made within the county or city; high administrative workload; and excessive bureaucratic requirements from state and federal entities. Several participants specifically mentioned redundant requests for information from multiple state agencies, as well as FEMA, were caused by a lack of information sharing above the local level. As for the last issue, a standardized national database would streamline the process, eliminate redundant requests for information, and increase situational awareness.

Other challenges voiced were the distinctions in requirements between rural and urban areas. Seventy percent of study subjects described the importance of understanding that rural districts require a different approach than urban areas. Differences in population density and increased area of responsibility were annotated as significant challenges. Distinctions in risks

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were also noted between metropolitan zones and agrarian expanses. Moreover, sparsely populated rural locales yield a smaller tax base. Lower tax revenues translate into fewer resources spread out over a larger area. These vast expanses also negate any efficiencies gained by any economies of unit (EOU). Other distinguishing features are that rural regions primarily rely on volunteer fire departments, lack a dedicated emergency management staff, struggle with basic medical emergency services, and have limited municipal or county employees. Additionally, the rural counties surveyed had many small incorporated areas with limited resources located inside their geographic boundaries that increased the complexity of planning efforts.

An important distinction cited between counties and cities was the ability to surge employees from one section to another. County employees work for multiple elected officials with fixed duties and are not easily borrowed or loaned to different departments. City employees all work for the mayor or city administer and can be moved from one section to another more readily. The ability to surge employees, as needed, gives municipalities a slight advantage in disaster management.

Emergency planning is a fundamental function for emergency managers. Contingency planning is predicated on an all-hazards all-hands approach (State of Texas, 2010). Proximity to risk, area physiognomy, and historical precedent also shape preparation endeavors. However, the biggest diurnal challenges for emergency managers was induced by task overload and administrative burdens. In many instances, internal municipal and county resource decisions have relegated emergency management to a lower priority, thereby, increasing workload and affecting community preparedness. While it is the local government's responsibility to prioritize and allocated resources against requirements, it would be prudent to ensure a comprehensive risk

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analysis is conducted between vulnerabilities and community readiness before budgetary decisions.

Theme #2. All the respondents indicated that public outreach was an important pre-crisis task for emergency managers. Study participants commented that significant time and resources were allocated to educating and informing the public. Establishing relationships with the community prior to an emergency is essential (USDHS, 2011e). Despite the importance of using a multi-modal approach over various media systems (Edwards et al., 2011), outreach to the public in most jurisdictions surveyed was limited to face-to-face contact, websites, and limited use of Facebook. The reliance on these limited communication forums constrained the extent and effectiveness of the public outreach. A lack of funding and inadequate staffing were the most prevalent obstacles inhibiting a much more robust information campaign.

Other challenges articulated with community engagement were problems with emergency notification. Large areas of responsibility coupled with sparse population and individuals not registered for the reverse 9-1-1 system make immediate notification difficult. Additionally, access to television for emergency information and public service announcements was noted as problematic for rural regions. For the most part, smaller towns and rural areas do not have dedicated television channels. Due to limitations with receiving an over-the-air television signal or a lack of cable TV provider, rural residents have a higher propensity to use satellite television. Several subjects pointed out that even when local television stations report on emergency situations in rural areas, many residents cannot view the information because the satellite television providers only broadcast news information from large media markets that typically do not cover the local region.

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Apathy was expressed by sixty percent of those interviewed as a major issue in public outreach, therefore, limiting community preparedness. Individual apathy and readiness are difficult to gauge prior to a disaster. Several emergency managers measured apathy by low participation in educational classes and a lack of enthusiasm for signing up for reverse 9-1-1. Possible reasons for the cited apathy are: (a) residents are not interested in engagement because they already have the information; (b) the general public may not be receiving the material and don't have any knowledge of what is available; (c) individuals don't think a disaster will happen to them; (d) people are unwilling to provide personal information for government databases; and (e) other events have a higher priority and there is no time available for disaster preparedness.

Public outreach, as expressed by the respondents, was inadequate and inefficient because of both internal and external challenges. County and city impediments originated from resource and creativity constraints. Additional assets, increased use of existing technology, and selective targeting of groups and events may prove to be a more advantageous endogenous strategy. The exogenous issues may be more elusive and require more innovative solutions to gain the public attention. A repetition of the same message or reiteration of the same lackluster community program every year is not apposite. Information campaigns must be kept fresh and relevant. Additionally, the population is not homogenous and has dissimilar needs. An appropriate and timely engagement must be aimed at a particular group through the most suitable media forum. Broadcasting dated generic information to the entire populace on a single communication network is likely not to be heeded.

Theme #3. All the study subjects underscored the importance of collaboration as a means to overcome resource constraints and increase preparedness. As one participant responded, "Emergency management is all about relationships" (MB08). The data collected reaffirms that

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pre-crisis collaboration and coordination are essential in establishing relationships, plans, and preparedness (USDHS, 2011b). Fundamentally, emergency management during the pre-crisis phase is a continuous coordination process with all stakeholders to include the public.

Collaboration is a coordination procedure that must occur with numerous groups, agencies, private entities, and non-governmental organizations, many times unaware of each other's capabilities and planning efforts (Moore et al., 2012). The ability to collaborate with all stakeholders becomes arduous with minimally staffed emergency management organizations. Paradoxically, the fewer the resources, the more imperative collaboration becomes. Auspiciously, regularly scheduled meetings and coordination efforts with surrounding emergency managers and the respective Council of Governments was noted as a collaboration best practice among the study participants.

Apathy among stakeholders was identified as a collaboration issue. Mutual willingness and collective responsibility must be established to develop and implement an appropriate solution (Jamal & Gertz, 1995). Competing requirements and varying agendas can be formidable obstacles to collaboration. Finding ways to persuade and influence individuals to voluntarily participate can be difficult. Fortunately, as one participant noted, collaboration challenges before a crisis will always exist, but when a catastrophe happens, the community tends to rally together as one team (MB12).

Relationship of the current study to previous research. There has been little qualitative research on the dynamics affecting county and municipal emergency managers. Currently, there are no known previous qualitative studies regarding the pre-crisis considerations facing emergency managers in the Central Texas region. Recent literature on the topic emanates from various academic concentrations and contains sub-elements of disaster management

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(Henkey, 2011; Jensen, 2011; Renaud, 2012). Moreover, the preponderance of the contemporary literature is rooted in large-scale disasters with a substantial amount of the scholarly work focused on causes and consequent of the event (Deverell, 2012). Additionally, the majority of the literature themes and concepts are broad in nature and are not aimed at local emergency managers (Rocha, 2011). Finally, disaster management theory is still emerging and a lack of consensus remains on categorizing the theoretical aspects of this enterprise (Urby &McEntire, 2014).

This qualitative inquiry is unique because the researcher explored the diurnal challenges of local emergency managers. The goal of this exploration was to reduce the void in the body of knowledge on this topic. Notably, literature in contingency theory (Fiedler, 1958, 1964, 1971, 1978), collaboration theory (Gray, 1985), and resilience (Busch & Givens, 2012; Jordan, 2011) validate several of the findings of this study.

Contingency theory. This theory served as a theoretical framework for defining the tasks of emergency managers. Analyzing the data through this prism allowed the recognition of the various pre-crises disaster management considerations. Through this process, the amalgamation of individual influences allowed the apperception of the delineated themes. Ultimately, the establishment of structured tasks will allow for management efficacy, enriched contingency plans, improvements in resources allocation, and increased preparedness.

Contingency theory posits that the most advantageous management approach is predicated on situational factors that are both internal and external to the organization (Luthans & Stewart, 1978). This theory highlights the need to identify tasks and recognize the conditions under which they are likely to occur (Mitchell et al., 1970). Although there is a commonality in national and state issues, all of the study subjects acknowledged that region-specific risks and

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local considerations must be taken into account to effectively prepare the community for a disaster. These jurisdictional distinctions in work priorities stemmed from funding variances; available resources; population densities; location-specific risks; local historical incidents; and the operational perspective of the emergency manager. These provincial differences significantly influenced the individual diurnal considerations of each study participant. As the theory contends, the identification of these structured tasks allowed the subjects to recognize risks, prioritize efforts, and facilitate collaboration with other stakeholders (Northouse, 2013).

Contingency theory also reinforces that emergency managers must look past their institutional backgrounds and view emergency management from a more holistic perspective (Weill & Olson, 1989). Although state-directed planning requirements set the agenda for a sizable portion of local planning efforts, emergency manager backgrounds and past experiences seemed to influence planning efforts. For example, individuals with a firefighting background tended to be more occupied with wildland fires. Emergency managers with law enforcement training were more concerned with terrorism, whereas, those individuals with emergency medical service credentials were more focused on medical issues. Instead of relying on personal experiences, the appropriate management measures should be based on understanding the exogenous and endogenous factors to ensure community readiness (Mitchell et al., 1970). This lack of a shared perspective among emergency management professionals extends throughout the disaster management community and is one of the facets that preclude agreement on an all-encompassing disaster management theory (Deverell, 2012).

Collaboration theory. The study data also confirms the importance and impact of collaboration theory on disaster management. Disaster management is a complex issue with multiple stakeholders (De Smet et al., 2012). The extensive use of collaboration by the study

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subjects is supported by the literature (Dickinson & Sullivan, 2013). In a resource constrained environment, collaboration becomes an important aspect of disaster management (Boyer et al., 2011). All respondents highlighted the importance of collaboration within their institution and with external organizations. A collaborative process is necessary to gain a deeper understanding of the considerations affecting the area (Biedrzychi & Koltun, 2012).

The collaboration continuum (Gajda, 2004) expressed by the study participants ranged from building relationships to sharing planning efforts and responsibilities. Although the federal government (USDHS, 2013b) and the State of Texas (2015) place disaster management responsibility on individual communities, several entities combined emergency management functions. While specific arrangements varied, selected municipalities united jurisdictional responsibilities for emergency management while maintaining the status quo for other civil obligations. These ad hoc creations are archetypical solutions to increase efficiencies and offset resource limitations.

The study results also substantiate that collaboration can be an intricate and challenging process to manage (Montiel-Overall, 2005). The data reinforces that collaboration is an essential and often-used practice in disaster management (USDHS, 2011b). Described not as an end state, but as a journey that relies on personalities and not procedures (Gajda, 2004), collaboration has become a more widely used approach to solving complex issues (Selin & Chevez, 1995). The findings of this study support the conviction that successful disaster management execution is tied to the planning and coordination efforts undertaken before an event (Christopher et al., 2010).

Resilience. The significance of building community resilience is supported in the prevailing literature. Increasing community resilience is a national priority (USDHS, 2013c) and

a major part of the planning process (Bhamra et al., 2011). These results support previous findings that emergency managers must engage the community early (Jordan, 2011) and profoundly (Kahan et al., 2009). Since the private sector owns 85% of the infrastructure, it's paramount that communities and business are involved in the process (Busch & Givens, 2012). The results of this inquiry confirmed that collaboration, planning, and building relationships are an essential part of resilience (Parker, 2011).

Resilience is the ability to respond to changing conditions, withstand, recover, and adapt to a new environment (Kuhlicke, 2013). Resilience begins at the local and individual level (Parker, 2011; USDHS, 2011e). The data collected reinforces that establishing relationships with the public, as well as, all stakeholders is an essential element of increasing community resilience. All respondents were actively engaged in educating the populace on individual responsibility and being prepared. Not only is a prepared populace less of a burden during a crisis to governmental authorities, but primed individuals can be a tremendous asset by providing assistance to others (Plough et al., 2013).

Many of the study participants experienced less than expected results to the various community initiatives undertaken. As previously mentioned, respondents indicated apathy was an impediment to building community resilience. Study subjects dedicated substantial efforts to attract individuals to various educational opportunities. Leveraging engagements with community-based organizations, faith-based institutions, and neighborhood groups may prove to be more productive then pursuing individuals (Parker, 2011; Plough et al., 2013).

While it is the government's role to promote resilience, it is the responsibility of the population and private sector to take the necessary actions (USGAO, 2014a). Community resilience is more than the summation of individual resiliency (Plough et al., 2013); it includes

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critical infrastructure, economic resources, social predispositions, government resources, logistical vulnerabilities, and mitigation strategies (Carlson et al. 2012). A whole community approach that collectively engages all sectors of society in understanding risks, assessing needs, implementing preparedness strategies, and building resilience is essential (USDHS, 2013a). Since the community plays a significant role in disaster preparedness, the proper engagement, organization, and role establishment between government entities and all the stakeholders is critical (Patterson, et al., 2010).

Précis of Findings

There are numerous dynamics emergency managers must deal with to ensure their communities are prepared for a disaster. This study found that local differences, proximity to risks, area physiognomy, historical precedent, and operational perspective of the emergency manager significantly influenced individual diurnal considerations and shaped preparation endeavors. While planning was identified as the primary pre-crises task for emergency managers, public outreach and building community resilience were also documented as essential functions of disaster management. The extensive use of collaboration was found to be an important aspect for emergency managers. Though there were many internal and external priorities and challenges, this research indicated the most significant dynamic affecting emergency managers was high workload, administrative burdens, and a lack of resources stemming from organizational resource decisions. Problems with public engagement arose from apathy, a lack of funding, inadequate staffing, limited use of communication forums, and a lack of imagination. Additionally, rural regions and urban areas have different requirements and challenges that must be taken into consideration at the local, state, and federal level.

Several key points resonate and should be considered. First, without an impending crisis or threat, apathy and higher priorities often diminish the importance of disaster preparedness. Consequently, the success of pre-crisis actions at the municipal and county level are contingent on understanding and anticipating the dynamic disaster management considerations and applying the appropriate resources based on a comprehensive risk analysis. Second, emergency managers must look past their initial professional backgrounds and view disaster management from a more holistic perspective. Unfortunately, a unifying disaster management perspective remains elusive. Third, emergency managers must not get fixated on past events, but do a continuous and comprehensive risk analysis to understand the exogenous and endogenous factors affecting preparedness. Fourth, in some cases the use of shared jurisdictional approaches can provide effective methods to overcome resource constraints. Lastly, a more focused and creative community engagement program aimed at specific populations through the most appropriate media forum for that group has the potential to improve community resilience and increase collaboration.

Significance of the Study

This study is unique in that there are no known previous qualitative studies of county and municipal emergency managers in Central Texas. Scholarly work on disaster management is still in the early stages of development (Pelfrey & Kelley, 2013). This disaster management research is significant because it addresses the lack of understanding of the preparedness considerations emergency managers must contend with to ensure disaster readiness. The results of this phenomenological inquiry advance the knowledge of those issues.

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The data indicated that emergency planning and public outreach were two of the major tasks for the study subjects. The findings of this study also identified building community resilience as an important issue for emergency managers. Task overload and administrative burdens were found to be primary dilemmas that affect readiness. Other significant challenges prohibiting preparedness include problems with emergency notification, community engagement, and apathy.

This study provides valuable insights for scholars and policymakers in understanding the principal considerations confronting practitioners in the field of disaster management. These results can be used to establish processes to reduce readiness impediments and improve resource allocation. Because there has been little qualitative research on the considerations affecting county and municipal emergency managers, this study provides foundational information for future research.

Limitations of the Study

This phenomenological study produced rich data from the participants' descriptions of their lived experiences concerning pre-crisis disaster management. However, this inquiry was limited to county and municipal emergency managers in Central Texas. Accordingly, this research is constrained by the perceptions, experiences, and honesty of the subjects. The results of this exploratory investigation may not apply to all emergency managers. Nevertheless, the study's results may be similar to other comparable organizations.

Data collection based on demographics and geographic variances was outside the scope of this investigation. The results of this study do not account for differences in gender or culture of the respondents. Nor does this study extrapolate variations in responses based on experience levels, education, and functional background of the participant. Collection and stratification of

the results based on population demographics and other factors could provide further granularity and additional considerations.

The researcher does have experience in this phenomenon. Since the researcher was the sole interviewer for this study, this could be a limiting factor due to possible bias. However, great care was taken not to influence the subjects through the use of reflexivity, bracketing, and following established protocols (Chan et al., 2013).

Implications for Practice

The findings of this research are relevant for practitioners and policymakers in the field of disaster management. This study is significant because it identified tasks, priorities, issues, and challenges confronting professionals in emergency management. Practitioners in the vocation of disaster management can use these discoveries to gain a better understanding of the principal pre-crisis considerations facing emergency managers. These results can be used to establish processes to reduce readiness impediments, improve resource allocation, and increase overall disaster preparedness. Additionally, this research provides decision-makers with insights into the various disaster management approaches used by other cities and counties. The data collected offers examples of potential solutions to resource constraints through the use of increased collaboration and the amalgamation of jurisdictional responsibilities.

Implications of Study and Recommendations for Future Research

The aim of this research was to add new and relevant literature to the pre-crisis disaster management body of knowledge. The objective of this inquiry was to identify the diurnal challenges of county and municipal emergency managers. Since the data provides descriptive perceptions of the considerations affecting emergency managers, others may use this information

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to compare to different environments. Because there has been little qualitative research on the dynamics influencing county and municipal emergency managers, this study provides foundational information for future inquiries.

This exploration opens the door for further investigation of the issues affecting disaster preparedness. Additional studies are warranted to understand the impacts of the topics and challenges of disaster preparedness identified in this study. The effects of task overload of emergency managers prior to a crisis and overcoming apathy to increase resilience are not sufficiently addressed in the literature and require further examination. More work is also needed in understanding the effects of the parochial views of emergency managers that have limited experience in only one functional area of emergency management. Based on the research findings, additional exploration should also be given to understanding the different considerations between emergency managers in rural areas and those in large municipalities.

The field of disaster management is dominated by multiple academic disciplines with conflicting perspectives (Deverell, 2012). Moreover, disaster management theory is still emerging and a lack of consensus remains on categorizing the theoretical aspects (Urby & McEntire, 2014). However, the data from this pursuit provides evidence of the significance of contingency and collaboration theory to disaster management. Nonetheless, more work is needed in establishing an all-encompassing disaster management theoretical framework.

Future studies should also consider using participants from varied geographical locations and socio-economic statuses. A larger and more diverse group of subjects can potentially provide more considerations. Additional research could also be designed to stratify the data according to functional background experience and demographic information of the emergency manager.

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Finally, several subjects expressed success with inter-jurisdictional planning and regional approaches to increased efficiency and overcome resource constraints. These collaborative power sharing approaches require more research in understanding the applicability and benefits associated with these techniques. Knowing the parameters under which these cooperative strategies are the most effective is essential.

This endeavor provides the researcher with multiple future exploration opportunities. While much work is still needed in understand disaster management dynamics at the local level, other voids in the body of knowledge are still prevalent. Of particular interest to the author of this study are the subjects of overcoming disaster management apathy and understanding the issues that prevent an overarching disaster management theoretical framework.

Reflections

On reflection of this study, it has become quite apparent the critical role county and municipal emergency managers play in ensuring their communities are prepared for a crisis. However, these vital functions are woefully under-resourced and often ignored until needed. Each one of the emergency managers interviewed did not regard their professions as a job but as a passion. In every instance, these individuals were one deep and on call 24 hours a day. No matter the time of day or night, when the phone rings, their personal lives are put on hold as they respond to help others without hesitation. Despite an extreme workload and general apathy of others toward disaster preparedness, the dedication these individuals displayed was remarkable.

Conclusion

This chapter presented the findings and conclusions that were extrapolated from the data collected. A brief synopsis of the topic, methodology, and population under study were included.

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Also conveyed in this section were the limitations of the study, implications for practice, and recommendations for future research.

This study highlights that disaster management is an emerging field with varying perspectives stemming from multiple operational professions, functional areas, and academic disciplines (Deverell, 2012). The results of this research indicated that emergency managers have a high workload and are often under-resourced. Consequently, the success of pre-crisis actions at the municipal and county level are contingent on understanding and anticipating the dynamic disaster management considerations and facilitating collaboration to overcome resource deficits and increase preparedness.

This phenomenological study provided new research on the pre-crisis disaster management preparedness considerations county and municipal emergency managers in Central Texas must contend with to ensure disaster readiness. The findings of this research identified planning, public engagement, collaboration, building community resilience, task overload, emergency notification challenges, and apathy as critical considerations for the respondents of this study. The data collected provides insights for scholars and policymakers in understanding the principal influences confronting practitioners in the field of disaster management. Furthermore, this endeavor provides foundational work for future studies in understanding pre-crisis disaster management considerations.

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Appendix A: Participation Request Email

Dear (name)

  I am requesting your participation to assist me in my Doctorate of Management (DM) research concerning disaster management considerations. The purpose of this study is to explore the challenges, issues, and priorities disaster managers must contend with to ensure disaster readiness.

  The study will include signing an informed consent form and a 30-45 minute interview. You will be asked to review, sign and date a consent form at the beginning of the meeting. The interview will be one-on-one with me either at your workplace or at mutually agreed upon location.

  The interview will be conducted between July 15, 2015 and Aug 15, 2015. For your convenience, I have attached a consent form for you to review.

  Your participation in this study can make a significant contribution to the field of disaster management. Your straightforward responses will be kept confidential and used only for research purposes.

  Please let me know if you are willing to participate in my study. If you do, please let me know the following:

Date: _____
Time: _____
Location:_____

Thank you in advance for your assistance.

Michael L. Brewer
DM Candidate
Phone: (254) 749-2600
Email: m.brewer27@student.ctuonline.edu

Attachment:
Consent Form
Interview Questions

Appendix B: Follow-up Request Email

Dear (name)

A few days ago I sent you an email requesting your participation in my doctoral study on Disaster Management. This email is a reminder in case you did not receive the request and attached consent form. If you did receive them but have not had the time to complete them, I look forward to your correspondence at your earliest convenience. If you have any questions, please don't hesitate to contact me.

Michael L. Brewer
DM Candidate
Phone: (254) 749-2600
Email: m.brewer27@student.ctuonline.edu

Appendix C: Reminder Email

Dear (name)

This email is a reminder regarding our scheduled interview.

Below are the date, time, and location of the meeting.

Date: _____

Time: _____

Location: _____

I look forward to seeing you tomorrow.

Michael L. Brewer
DM Candidate
Phone: (254) 749-2600
Email: m.brewer27@student.ctuonline.edu

INFORMED CONSENT

TITLE OF STUDY: PRIORITIES AND CHALLENGES: A PHENOMENOLOGICAL STUDY OF DISASTER MANAGEMENT CONSIDERATIONS IN CENTRAL TEXAS

INVESTIGATOR: Michael L. Brewer

CONTACT NUMBER: (254)-749-2600

Purpose of the Study

You are invited to participate in a research study. The purpose of this study is to explore the tasks, issues, priorities and challenges that disaster managers must contend with to ensure disaster readiness. You are being asked to participate in the study because of your experience as an emergency manager. Your opinions, outlook, and insights with respect to your experiences are critical to determining these readiness considerations.

Procedures

If you volunteer to participate in this study, you will be asked to do the following: Provide responses during an interview (30-45 minutes in length) regarding your experiences in disaster management.

Benefits of Participation

There may/may not be direct benefits to you as a participant in this study. However, I hope to learn different perspectives and experiences to determine the impacts of the various considerations that affect disaster preparedness.

Risks of Participation

There are risks involved in all research studies. This study may include only minimal risks. You may not see the ultimate results of your input to this study. You may also feel somewhat uncomfortable in answering some of the questions since it may involve personal opinions, beliefs, or experiences regarding disaster management. The results of the study may not end up benefiting any local disaster management offices.

Cost /Compensation

There will not be any financial cost to you to participate in this study. The study will take approximately 30-45 minutes of your time. You will not be compensated for your time. Colorado

Technical University (CTU) may not provide compensation or free medical care for an unanticipated injury sustained as a result of participating in this research study.

Contact Information

If you have any questions or concerns about the study, you may contact Dr. Lizabeth Jordan, Committee Chair, at ljordan@coloradotech.edu or by mail at 4435 North Chestnut, Colorado Springs, Colorado 80901. For questions regarding the rights of research subjects, any complaints or comments concerning the manner in which the study is being conducted, you may contact the Colorado Technical University, Doctoral Programs, at (719) 598-0200.

Voluntary Participation

Your participation in this study is voluntary. You may refuse to participate in this study or any part of this study. You may withdraw at any time without prejudice to your relations with the university. You are encouraged to ask questions about this study at the beginning or anytime during the research study.

Confidentiality

All information gathered in this study will be kept completely confidential. No reference will be made in written or oral materials that could link you to this study. Your name will be number coded and used for reference purposes only. The researcher will be the only individual who will know your identity. All records (field notes, taped recordings, tape recorded transcripts) will be stored in a password protected computer that only the researcher has access and password knowledge. The computer will be locked in an office in Clifton, Texas, where only the researcher has access for at least five years after completion of the study and dissertation publication. After the storage time has elapsed, all notes and transcriptions gathered will be destroyed in accordance with CTU policy.

Participant Consent

I have read the above information and agreed to participate in this study. I am at least 18 years of age. A copy of this form has been provided to me.

_____   _____

Signature of Participant   Date

_____

Participant Name (Please Print)

Appendix E: Script

Location: _____

Date: _____

Name of Subject: _____

Subject Number: _____

Time Started: _____

Time Finished: _____

Total Interview Time: _____ **(minutes)**

Opening Remarks of the Interview:

Hello, my name is Michael Brewer, and I am a doctoral student in management at Colorado Technical University. As part of my doctoral dissertation research project, I am studying the considerations that affect disaster management preparedness. Thank you for agreeing to participate in this study. Today, I am interested to learn from you the considerations that impact disaster management readiness.

Ice Breaker Question. How are you today? Is there anything that would prevent you from participating in today's session? (if not, proceed)

Consent Form. Before we begin the short survey and interview, I would like to go over the informed consent form (if the subject does not have his copy, provide a blank copy and go over the form). Do you have any questions regarding this form (if none, proceed)? Could you please sign and date the form for my records. I will also provide you a copy for your records (once the form is signed/dated, provide subject a copy).

Interview. Your interview is part of a larger study that includes no more than 15 other disaster managers that will be interviewed. I would like to record the interview via I-phone recorder so that I can spend more time listening than taking notes. Everything we discuss will be kept confidential. You may request that the recording device be shut off if its presence precludes you from answering in a particular manner. A transcript of the recording will be prepared, but nothing that is said will be attributed to any individual. At no time will anyone except me be able to know what you said in response to the interview questions.

Thank you for volunteering to participate in this study. Do you have any questions for me before we begin on the interview questions?

I would now like to move into the discussion segment of the interview and ask you several questions. Do you have any objections? [If no objections, turn on the recording device, then check/annotate the time, and proceed.]

Continuing the Interview:

My name is Michael Brewer, today is (date)_____ , the time is _____ , and I am interviewing subject # _____ .

I will now ask you a number of questions. When answering these questions, think about your past and current experiences. Please do your best to respond to all the questions. All of these questions are designed to assist me in understanding your perceptions, experiences, and the disaster management factors you deal with on a daily basis.

Q1: Can you describe a typical day in your role as an emergency manager especially as it concerns disaster management?

Q2: Can you tell me about the issues/tasks that consume most of your time?

Q3: Can you describe what actions/tasks you take to ensure disaster preparedness?

Q4: Based on your experience, which tasks are the most important to ensure disaster preparedness?

Q5: Tell me about your biggest challenges to disaster preparedness.

Q6: Can you elaborate on how those challenges/issues have affected the disaster preparedness of your community?

Q7: Based on your experiences, what would you do/change to increase the community's disaster preparedness?

Q8. Can you elaborate on any policies or practices you would change to increase disaster preparedness?

Q9. Can you tell me about those disaster management issues that keep you up at night?

Q10. Are there any other comments related to your disaster management challenges and priorities that you would like to add?

[If not, turn off tape-recorder]

Closing remarks:

Thank you for your time. As I review the information you have provided, I may have some clarification questions. May I contact you if I need to clarify something? Again please be assured of the confidentiality of your individual responses and thank you for your participation in this study.

Thank you very much.

Appendix F: Interview Form

Demographic Data:
Name: _____
Gender: _____
Ethnicity: _____
Name of Organization: _____
Current Position: _____
Number of Years of Disaster Management Experience: _____
Number of Years in current position: _____
During a typical day (pre-crisis), how much of your time is devoted to disaster management issues ____?

Interview Question Notes

Q1: Can you describe a typical day in your role as an emergency manager especially as it concerns disaster management?

Q2: Can you tell me about the issues/tasks that consume most of your time?

Q3: Can you describe what actions/tasks you take to ensure disaster preparedness?

Q4: Based on your experience, which tasks are the most important to ensure disaster preparedness?

Q5: Tell me about your biggest challenges to disaster preparedness.

Q6: Can you elaborate on how those challenges/issues have affected the disaster preparedness of your community?

Q7: Based on your experiences, what would you do/change to increase the community's disaster preparedness?

Q8. Can you elaborate on any policies or practices you would change to increase disaster preparedness?

Q9. Can you tell me about those disaster management issues that keep you up at night?

Q10. Are there any other comments related to your disaster management challenges and priorities that you would like to add?