SUSTAINABILITY AND THE EMERGENCY MANAGER: DO THEY MESH?

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Regine Laurence Chauvet

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Regine Laurence Chauvet

The Supervisory Committee certifies that this ***disquisition*** complies with North Dakota State University's regulations and meets the accepted standards for the degree of

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SUPERVISORY COMMITTEE:

Dr. Jessica Jensen
Chair

Dr. Daniel Klenow

Dr. George Youngs

Dr. Carlos Hawley

Approved by Department Chair:

12/17/2012
Date

Dr. Daniel Klenow
Signature

ABSTRACT

There exists a lack of consensus around the definition of "sustainability" and numerous of applications of the concept in the disaster literature. Reviewing the disaster literature on sustainability, its intended audience, and the disciplines that inform it, a disconnect between the strategies proposed and the current role of county emergency managers in the U.S is evident. This study qualitatively explored how sustainability is conceptualized and perceived to be applicable at the local level by interviewing county emergency managers in the states of Florida and North Dakota. The study demonstrated that the lack of definitional clarity evidenced in the disaster literature is also reflected in emergency manager conceptualizations of sustainability. However, themes related to meaning were identified in the interviewed managers' conceptualizations of sustainability, contextual factors influencing these conceptualizations offered, and implications of these findings for the development of the profession and discipline of emergency management discussed.

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DEDICATION

For my family and friends

Wherever you are

Thank you

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LIST OF ABBREVIATIONS

CEM……Comprehensive Emergency Management

EMAP……..Emergency Management Assistance Program

FEMA……..Federal Emergency Management Agency

IAEM……...International Association of Emergency Managers

IRB……..Institutional Review Board

NDRF……..National Disaster Recovery Framework

NFPA……...National Fire Protection Association

NGA……National Governor's Association

NIMS……...National Incident Management System

PPD-8……..Presidential Policy Directive 8

CHAPTER ONE: INTRODUCTION

This study explored how county emergency managers conceptualize the term sustainability and how they perceive it to be applicable to the practice of emergency management at the local level. The ultimate goal of this study was to understand the implications of the perceptions of county emergency managers regarding these issues for the profession of emergency management. Specifically, this research addressed the following questions:

1. How do county emergency managers conceptualize the term sustainability?
2. What is the perceived applicability of sustainability to emergency management practice at the local level in the United States?

Background

The emergence of the profession of emergency management in the United States can be traced to the civil defense era in the 1950s. Initially, those employed in civil defense positions were engaged exclusively in the coordination of tasks related to preparedness for and response to domestic attacks (Britton, 1999; Rubin, 2007). As emergency management formalized as a government function during the 1960s and 1970s, the hazard focus of those employed in the field expanded to include natural and technological disasters (Rubin, 2007). Yet, the attention of individuals tasked with emergency management responsibilities remained on preparing for and responding to disasters (Rubin, 2007). From its inception, emergency management was a "defensive" function in that it assumed that disasters were going to occur and that all humans could do was prepare to deal with them.

It was not until the National Governor's Association (NGA) released NGA (1979) that a more "offensive" approach to emergency management was recommended. NGA (1979) noted the bias toward preparedness and response activities within emergency management and

suggested that more could be done to change the way disasters impact communities across the United States. Specifically, NGA (1979) argued that reducing the impacts of events and helping communities recover quickly after disasters were as important as preparedness and response. NGA (1979) suggested that the coordination of activities related to all four functional areas (i.e., preparedness, response, recovery, and mitigation) should be done within the auspices of emergency management offices.

NGA (1979) is credited with transforming the philosophical underpinnings of the practice of emergency management with the introduction of a comprehensive all-hazards approach known as Comprehensive Emergency Management (CEM) (Britton, 1999).

> [CEM] refers to…responsibility and capability for managing all types of emergencies and disasters by coordinating the actions of numerous agencies. The "comprehensive" aspect of CEM includes all four functional areas of disaster or emergency activity: mitigation, preparedness, response, and recovery. It applies to all risks: attack, man-made, and natural, in a federal-state-local partnership. (NGA, 1979, p.11)

Widespread adoption of the CEM philosophy by practicing emergency managers has been referred to as a key event in the professionalization of emergency management (Britton 1999; Drabek 1991; McEntire 2005; Neal 1997; Petak 1985).

Leading emergency management organizations including the International Association of Emergency Managers (IAEM), the Federal Emergency Management Association (FEMA), the Emergency Management Accreditation Program (EMAP), and the National Fire Protection Association (NFPA) recently reaffirmed emergency management's commitment to the philosophy of CEM by their adoption of the *Principles of Emergency Management* (FEMA, 2007). The principle*s* outline what the profession of emergency management is as well as the attributes of successful emergency managers.

FEMA (2007) also reaffirmed the significance of activity in the four functional areas as integral to the profession's mission. Specifically, FEMA (2007) claimed emergency management's mission as protecting communities "by coordinating and integrating all activities necessary to build, sustain, and improve the capability to mitigate against, prepare for, respond to, and recover from threatened or actual natural disasters, acts of terrorism, or other man-made disasters" (FEMA, 2007, p. 4). Thus, despite the historical bias toward preparedness and response in emergency management practice, current professionals practicing in the field ought to be engaged in the coordination of activities across all functional areas.

Research has provided some reason to doubt that emergency management, at least within government jurisdictions at the local level, is fulfilling its mission. For instance, while research has shown time and again that emergency managers are involved in tasks and activities with preparedness and response, the degree of their involvement and the effectiveness of their involvement varies significantly from person-to-person, jurisdiction-to-jurisdiction, and state-to-state (see for example: Drabek, 2005; McEntire, 2007; Stehr, 2001; Wenger, Quarantelli, & Dynes, 1986). Additionally, even as the profession ascribes to itself responsibilities related to mitigation and recovery, whether emergency managers are even minimally involved in these functional areas has been questioned (Britton, 1999; Jensen, Bundy, Thomas, & Yakubu, n.d.; Rubin, 2009; Stehr, 2001).

There seems to be a contradiction between how emergency management conceives of itself as an emerging profession and how it operates in practice within local government. There are three likely explanations for this disconnect including the distributed nature of the function of emergency management, existing capacity at the local level, and changing expectations associated with the practice of local emergency management.

Emergency management is not solely an emerging profession. Emergency management is also a broad societal function—the responsibilities for which are shared among countless departments and organizations in government and the private sector (Canton, 2007; Drabek & Hoetmer, 1991; McEntire, 2006). As McEntire (2006) states, "…the emergency manager is only one of the many actors interested and involved in disaster issues at the local level…" (p. 169). Yet, interest in participating, and the ability to participate, varies overtime across the entities with responsibilities for tasks and activities related to the functional areas of emergency management (Jensen, 2009, 2010a; McEntire, 2006). The extent to which the players in the distributed function are engaged in emergency management tasks and activities significantly influences what emergency managers at the local level can accomplish with respect to preparedness, response, recovery, and mitigation within their jurisdictions (Drabek, 1987; McEntire, 2006; Stanley & Waugh, 2001).

Existing capacity also impacts what local government emergency managers accomplish. Capacity can be understood to be "the financial and human resources in the county that encourage or constrain the emergency manager and the county at-large in devoting time to (i.e., human capacity) and/or investing funding (i.e., financial capacity)" in emergency management (Jensen, 2010a, p. 35). Capacity within local government jurisdictions and local government emergency management offices varies greatly across the United States.

Emergency management offices are often buried within another department at the city and county level (Wenger et al., 1986; McEntire, 2006). For instance, one might find an emergency manager working within a police department or fire department. It has been suggested that where such organizational arrangements exist the needs of emergency management (e.g., resources, political support) are often not met (Wenger et al., 1986; McEntire,

2006) leaving emergency management with less capacity than would be required to fulfill its mission in the four functional areas within local jurisdictions. Additionally, while many local government emergency managers are employed as full-time emergency managers, many are not—working less than full-time or occupying other positions within government to make their positions full-time (e.g., working also as a county assessor, dispatch operator, veteran's services coordinator) (Jensen, 2009, 2010a; McEntire, 2006). Without sufficient human capacity, emergency managers struggle in their efforts to bring about preparedness and mitigation and effective and efficient response and recovery within their jurisdictions. Regardless of their placement within the local government structure or their position status, their offices tend to receive less funding than is required to fulfill basic emergency management responsibilities (Jensen, 2010a; McEntire, 2006).

An additional likely explanation for the variation in emergency management involvement in the four functional areas is the ever-changing demands placed on emergency managers. Locally elected officials can impact the demands placed on emergency managers; and, since elected officials come and go, the demands change over time (McEntire, 2006). Moreover, changes in focus at the federal level also influence what emergency managers do on a daily basis. For instance, as a consequence of the September 11, 2011 terrorist attacks, the focus of grant funds at the federal level narrowed to supporting just those activities that help prevent and protect against terrorism; and, as a consequence, the focus of local government emergency managers within their jobs shifted to accommodate this change (Tierney, 2005; Waugh, 2006). The introduction of the National Incident Management System (NIMS) and expectations related to bringing about compliance within local government jurisdictions is another example of how federal priorities impact the work lives of local emergency managers (Jensen, 2010a).

The contradiction between how emergency management conceptualizes itself as an emerging profession and the realities associated with the practice of emergency management is easily explained. Yet, the notion that local level practitioners are not yet fulfilling their mission within many local government jurisdictions has not stopped some from suggesting that they ought to be doing more. In recent years the disaster literature has increasingly addressed the need to decrease vulnerability and increase resilience and sustainability as means of changing how disasters impact communities (see for example: Mileti, 1999). And, it has been suggested that emergency managers should be engaged in helping their communities achieve these broad goals. For instance, McEntire (2000) and McEntire, Fuller, Johnston, & Weber (2002) argue that emergency managers should be intimately involved in decreasing vulnerability; McCreight (2007) argues that their central focus should be increasing resilience; and, Schneider (2002, 2004) contends that they should be engaged in efforts to bring about sustainability.

One has to wonder if emergency managers accept responsibilities related to these broad goals given the daunting expectations already associated with being a professional emergency manager and the current variance in their involvement at the local level. This study explored—sustainability—one of these new broad goals that emergency managers are supposed to help bring about within their communities by asking emergency managers what the concept means to them and how they see it applying within their jobs.

Significance

This study informs the discipline and the practice of the profession of emergency management by beginning the much-needed process of answering the question of what sustainability is and should be in emergency management. There exists a vast amount of literature suggesting that the concept of sustainability is applicable within the disaster context

(see for example: Aguirre, 2002; Beatley, 1995; Berke, Kartez, & Wenger, 1993; Burby, 1998; Godschalk, 2003; McMahan & Seibert, 2001; Menck, 2011; Mileti, 1999; Oliver-Smith, 1990, 1996; Passerini, 2001; Pearce, 2003; Schneider 2002, 2004, 2011); but, the extent to which emergency managers believe sustainability is applicable within the practice of emergency management has not yet been explored. This study began to explore this gap in the literature. The findings from this study will potentially be used to inform the education of future emergency managers and discussions of professionalization in emergency management.

Going Forward

Based on the emerging nature of the profession of emergency management, the challenges in the practice of the profession at the local level, and the gap in the literature where sustainability within emergency management is concerned, a study on this topic is clearly of significance for the academic discipline and the continued development of the profession. Chapter Two reviews the sustainability literature in the context of disasters. Chapter Three presents the research methods for this thesis project.

CHAPTER TWO: LITERATURE REVIEW

Chapter Two reviews the theoretical foundation for this study. The first section highlights issues in conceptualizing sustainability within the disaster literature. The second section discusses applications of the concept within the disaster literature. The third section examines the audiences toward whom the literature is directed. The fourth section reviews the academic disciplines that inform the discussion of sustainability within the literature and assesses the link between the disciplines responsible for the literature and emergency management.

Conceptualizations in the Disaster Context

A simple keyword search of "sustainability" in leading disaster research journals returns to any scholar a plethora of articles; however, few of these articles begin their discussion of sustainability with a well-enunciated definition of the concept (see for example: Alexander, Chan-Halbrendt, & Salim, 2006; Al-Nammari, 2006; Beatley, 1995a, 1995b, 1998; Becker & Saunders, 2007; Garnett & Moore, 2010; Handmer, 2002; King, 2010; Lane, 2000; McEntire, 2000; Okada, Nakamura, & Saruta, 2009; Passerini, 2001; Paulus & Asgary, 2010; Rodriguez & Aguirre, 2005; Salkin, 2008; Sato & Seki, 2000; Schwab & Brower, 1999; Shah Alam Khan, 2008; Slacker, Myers, Singelmann, & Doucet, 2010). The absence of a clearly articulated conceptualization of the concept makes it challenging to understand what sustainability means in the disaster context much less with respect to the practice of emergency management at the local level.

Another challenge to understanding how sustainability is conceptualized within the disaster literature is the notion of "sustainable development". The use of the term "sustainable development" in the literature implies that a notion of what sustainability "is" underlies the concept. Those using the term "sustainable development" seem to be suggesting that it is a

mechanism for achieving "sustainability" or making communities more "sustainable". Yet, most authors do not discuss the meaning of sustainability as a concept underlying their work (see for example: Becker and Saunders, 2007; Britton, 1999; Garnett & Moore, 2010; Izafkhah & Hosseini, 2010; Labadie, 2008; Passerini, 2001; Rozdilsjy, 2001; Salkin, 2008; Shaw, Gupta, & Sarma, 2003; Shrubsole, 2007). There is a tendency in the literature for no distinction to be made between the terms sustainability and sustainable development. In fact, the terms are often used interchangeably (see for example: Britton, 2001; Manock, 2003; Oviatt & Brett, 2010; Schwab & Bower, 1999; Shrubsole, 2007). Even King (2010) notes, "as a word and concept sustainability has been so misused as almost to have become the status quo" (King, 2010, p. 278). The issue of whether sustainability is just another word for sustainable development or something different within the disaster context is important to consider.

A thorough review of the disaster literature reveals that not all disaster scholars are guilty of discussing sustainability without defining it for their readers. Ahern (2011) provides the following definition, "Sustainability was envisioned as a durable, stable, sometimes formulaic 'fail-safe' urban form or condition that – once achieved – could persist for generations, for example through 'smart growth' or 'new urbanism'" (p. 341). Unfortunately, Ahern (2011) states that this definition is no longer used widely and does not provide a new definition that is in use.

Some authors do suggest definitions of sustainability that they appear to think of as current and appropriate within the disaster context. Please see Table 1 for the definitions of sustainability offered by the literature. All of these definitions share some degree of similarity—a consideration of long-term resource use and an orientation toward present and future quality of life. Still, none of these definitions have been backed by any consensus in the literature reviewed.

Not a single one of the definitions identified in Table 1 has been cited by other scholars as the conceptualization of sustainability grounding their study.

Table 1
Definitions of Sustainability Offered by the Disaster Literature

Definition	Citation
…using a resource so that it is not depleted or permanently damaged'. The key words are resource and use. Essentially, sustainability is the effective use of resources--natural, human, and technological--to meet today's community needs while ensuring that these resources are available to meet future needs	Geis & Kutzmark, 1995, Origins of Sustainability, para. 3
Any vision or theory of sustainability must prominently include consideration of the long-term safety and survivability of communities and their citizens. Protection from, and avoidance of, natural disasters is an important element of sustainability, and I believe they should receive greater emphasis	Beatley, 1998, p. 243
Sustainability—the capacity of the planet to provide a high quality of life for not only present but also future generations	Burby, 1998, p. 1
Sustainability refers to the capability of complex systems...to cope with changing conditions, to permanently adapt and, nevertheless, satisfy present needs	Posselkel, 1999, p.56 as cited in Celik & Corbacioglu, 2012, p. 4
Achieving sustainability, which, in a disaster-related context, means the ability to survive future natural disasters with minimum loss of life and property, is the overarching goal of planning for post-disaster reconstruction	Schwab, 2003, p. 47
Sustainability is defined as the ability or capacity to keep something going, or the state of being durable or able to persist	Esnard, 2003, p. 160
Sustainability can be thought of either as a fundamental system property, or as a long term, probably unattainable social goal, and sustainable development as the immediate policy agenda attending that goal	Dovers, 2004, p. 21
Sustainability is a static process. Sustainability addresses use of resources to ensure long-term survival and a non-decreasing quality of life. Once resource optimization is achieved, sustainability means continuing at that level	Kahan, Allen, & George, 2009, p. 16
In a similar way, sustainability relates to resilience by desiring to maintain a working ecosystem that will sustain communities and their resource use into future generations	King, 2010, p. 278

Only one definition of sustainability has been used by another author. The definition of sustainability offered by Mileti (1999) in the summary of his book *Disasters by Design* was used by Schneider (2002, 2004) to link sustainability to emergency management, by Celik &

Corbacioglu (2012) in their discussion of disaster management systems, and by McEntire et al. (2002) in their critique of the concept's use as a model for emergency management. Mileti (1999) defined sustainability as follows: "Sustainability means that a locality can tolerate—and overcome—damage, diminished productivity, and reduced quality of life from an extreme event without significant outside assistance" (Mileti, 1999, p. 4).

Yet, Mileti (1999) conceptualizes sustainability differently within the content of the book.

> The concept of "sustainability" was elevated to global importance in the late 1980s by the World Commission on Environment and Development. It was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 188). The commission stressed that sustainability includes inter- and intragenerational equity; that adequate standards of living for all people should be possible; and that economics, ecology, and social equity are inseparable. (Mileti, 1999, p. 29)

Mileti's (1999) book has been lauded as an enormous step in defining what sustainability means in the context of disasters (McEntire et al., 2002). And, Mileti (1999) has been referred to as a launching point for other scholars' discussions of sustainability within the disaster context (see for example: Aguirre, 2002; McEntire, 2004; McEntire et al., 2002; Schneider, 2002, 2004). Yet, even in this influential work, the notions of sustainability and sustainable development are used interchangeably leaving readers with no clear understanding of how they relate and what, if any, distinctions exist between the two concepts. Recognition of the struggles associated with the sustainability concept led Mileti (1999) to comment, "A globally accepted, operationalized definition of sustainability has yet to be offered. At this point it is more a philosophical perspective than scientific concept" (p. 29).

A clear conceptualization of sustainability within the disaster context is lacking. In all the literature reviewed for this study (n=121 articles/books/book chapters) the concept of

sustainability was explicitly defined only 14 times (Ahern, 2011; Beatley, 1998; Burby, 1998; Celik & Corbacioglu, 2012; Dovers, 2004; Esnard, 2003; Geis & Kutzmark, 1995; Kahan, Allen, & George, 2009; King, 2010; McEntire et al. 2002; Mileti, 1999; Schneider, 2002, 2004; Schwab, 2003), one of which introduced a definition only to suggest that it is now defunct (Ahern, 2011), and four supporting a definition established by Mileti (1999) including McEntire et al. (2002); Schneider (2002, 2004); and, Celik & Corbacioglu (2012) who used a definition posited by Posselkel (1999) to further support Mileti's (1999) definition.The concept remained either undefined or used interchangeably with sustainable development in all of the remaining literature reviewed. There is no consensus among disaster researchers, or within the disaster literature, as to what sustainability means, unless the consensus is that sustainability in the disaster context is sustainable development and that to achieve sustainability is to achieve sustainable development.

Mileti (1999) suggests that not having a clear definition of sustainability may not be problematic in the disaster context. He states, "even without a precise definition, working towards sustainable communities (and, eventually, regions, nations, and the world) can go hand in hand with reducing disaster losses from disasters" (Mileti, 1999, p. 29). Yet, the broadly defined disaster context is not the same as the applied profession of emergency management. One might have expected that the disaster literature would provide a working definition of the concept of sustainability that could be used by emergency management professionals. The preceding discussion of the literature has established that such a conceptualization does not exist; thus, this study will explore what the sustainability concept means to emergency managers who currently practice at the local level.

Applications of the Concept Within the Disaster Context

The lack of an agreed upon definition of sustainability in the disaster context has not stopped researchers from applying the concept. The concept of sustainability has been applied in many ways within the disaster literature. For example, it has been applied to risk management (see for example: Chakos, Schultz, & Tobin, 2002; Knott & Fox, 2010; Pinto, Mcshane, & Pathank, 2011; Sato & Seki, 2010); disaster insurance to encourage mitigation of hazard risks (see for example: Mileti, 1999; Sato & Seki, 2010); disaster preparedness planning (see for example: Izadkhah & Hosseini, 2010; Shah Alam Khan, 2008); and, the prediction, forecast and warning of impending hazards (see for example: Mandarano, 2010; Mileti, 1999; Shah Alam Khan, 2008). A link to how the emergency manager fits into the sustainability picture painted by this literature is not made explicit.

The relationship between emergency managers and the sustainability concept becomes no more clear when one turns to the disaster literature related to mitigation (see for example: Bender, 1993; Burby, 1998; Mileti, 1999) and recovery (see for example: Al Nammari, 2006; Becker & Saunders, 2007; Eadie et al., 2001; Smith & Wenger, 2007). Most of the literature related to sustainability in the disaster context involves these two functional areas advocated by the Comprehensive Emergency Management (CEM) approach as opposed to preparedness or response (the traditional domain of practicing emergency managers).

Mitigation can be understood to be "advance action designed to eliminate or reduce the long-term risk to human life and property from natural and man-made hazards" (Schneider, 2002, p. 142). It is within the literature related to mitigation that sustainability in a disaster context is most frequently discussed (see for example: Beatley, 1994, 1998; Bender, 1993; Burby, 1998; Godschalk et al., 1999; Mileti, 1999; Lindsay, 2003; Mandarano, 2010; Mitchell,

1995; Munnasinghe & Clarke, 1994; Pearce, 2003; Salkin, 2008; Schwab & Brower, 1999, 2008; Smith, 2009). The literature champions mitigation as a way to make communities more sustainable. Specific strategies in three categories (i.e., legal and regulatory, structural, and nonstructural) have been linked to sustainability. See Table 2 for examples of strategies in each category and citations of the relevant literature.

A review of this literature leaves no doubt that there are many opportunities to reduce or prevent the impact from hazards. Yet, emergency managers do not pass laws and regulations; they do not build structural mitigation projects; nor, do they have control over those who do these activities. Emergency managers do not typically have responsibility for the implementation of these mitigation strategies with the possible exception of mitigation planning (Schwab et al., 2006). Is the emergency manager's role in bringing about sustainability related to mitigation confined to planning? The mitigation literature does not provide a clear answer. Unfortunately, the disaster recovery literature also fails to make an explicit link between applications of the sustainability concept and the role of the emergency manager.

Disaster recovery can be understood as "the differential process of restoring, rebuilding, and reshaping the physical, social, economic, and natural environment through pre-event planning and post-event actions" (Smith & Wenger, 2007, p. 237). As with the literature on disaster mitigation, the literature on disaster recovery is also rife with mentions of sustainability (see for example: Al-Nammari, 2006; Becker, 1993; Becker and Sauffer, 1994; Becker & Saunders, 2007; Berke, Kartez, & Wenger, 1993; Garnett & Moore, 2010; Mileti, 1999; NHC, 2001; Rosowsky, 2011; Rozdilsky, 2001; Shaw, Gupta, & Sarma, 2003; Smith & Wenger, 2007).

Table 2
Applications of Sustainability to Mitigation Strategies

Category	Strategy	Citation(s)
Legal and Regulatory	• Building codes and standards	Burby, 1998; Mileti, 1999; Lewis, 2003; Prevatt, Dupigny-Giroux, & Masters, 2010; Smith, 2009
	• New development management regulations	Burby, 1998; Mileti, 1999; Schwab & Brower, 1999; Smith, 2009
	• Critical and public facilities policies	Burby, 1998; Mileti, 1999; Smith, 2009
	• Taxation and fiscal policies	Burby, 1998; Mileti, 1999; Schwab & Brower, 1999; Smith, 2009
Structural strategies	• Flood management projects	Bechtol & Laurian, 2005; Meo, Ziebro, &Patton, 2004; Shah Alam Khan, 2008; Shrubsole, 2007
	• Structural retrofitting to withstand hazards	Mileti, 1999; Prevatt et al., 2010; Rosowsky, 2011
Nonstructural strategies	• Land and property acquisitions	Burby, 1998; Mileti, 1999; Schwab & Brower, 1999; Smith, 2009
	• Education and information dissemination about sustainable construction, hazards, and mitigation techniques	Burby, 1998; Garnett & Moore; Mileti, 1999; Sato & Seki, 2010; Shaw, Gupta, & Sarma, 2003
	• Natural resource management and environmental preservation and restoration	Evans-Cowley & Gough, 2008; Schwab & Brower, 1999, 2008; Mandarano, 2010; May et al., 1996; Mileti, 1999
	• Reducing the socio-economic vulnerabilities of individuals and households	Britton & Lindsay, 1995; Lindsay, 2003
	• Land-use planning	Beatley, 1994; Burby, 1998; Mandarano, 2010; May et al., 1996; Meo, Ziebro, & Patton, 2004; Mileti, 1999; Salkin, 2008; Schwab & Brower, 1999, 2008; Smith, 2009
	• Participation in community planning and decision making	Burby, 1998; Islam, Merrell, & Seitz, 2010; Izadkhah & Hosseini, 2010; Karanci & Aksit, 2000; Mileti, 1999; Osti, 2004; Osti, Tanaka, & Tokioka, 2008; Pearce, 2003; Smith, 2009

Again, the literature offers numerous ways the sustainability concept can be applied. For instance, Burby (1998) indicates, "in the post-disaster period, sustainability values seek opportunities to relocate land use out of hazard areas and rebuild damaged homes and infrastructure in more resilient ways instead of replicating brittle and unsustainable development practices" (p. 86). Many scholars have both repeated and expanded the applications of sustainability suggested by Burby (1998). Within the disaster recovery literature the concept of sustainability has been applied in many and diverse ways to recovery from how reconstruction ought to be carried out to how aid should be delivered. Please see Table 3 for examples of how the sustainability concept has been applied to recovery as well as citations of relevant literature.

Similar to the discussion of emergency manager involvement in mitigation strategies, emergency managers do not have authority over, or responsibility for, most of the aspects of recovery where the literature suggests the sustainability concept can be applied. Emergency managers do not rebuild facilities, housing, or infrastructure. They do not preserve historical locations or culture. Historically, emergency managers have had little involvement in the production of recovery plans developed pre—or post—disaster (Phillips, 2009; Schwab et al., 1996). In fact, a recent study suggested that emergency managers have almost no role in recovery within their jurisdictions outside of the completion of paperwork (Jensen et al., n.d.). Of course, these observations about emergency manager roles are based on how the profession is currently being practiced in the United States.

It is also important to note that a significant portion of the literature discussing sustainability within the context of disaster recovery is specific to international disasters. The job of people working internationally in positions that might be called emergency management positions internationally, are not like local government emergency management positions in the

Table 3
Applications of the Sustainability Concept to Recovery

Applications	Citation
Reconstruction of housing, commercial buildings and infrastructure	Arlikati & Andrew, 2012; Burby, 1998; Chang, Wilkinson, Brundson, Seville, & Potangaroa, 2011; Cronin & Guthrie, 2011; Garnett & Moore, 2010; Hayles, 2010; Nakagawa & Shaw, 2004; Palliyaguru, Amaratunga, & Haigh, 2010; Shaw, Gupta, & Sarma, 2003; Rosowsky, 2011; Smith & Wenger, 2007; Wiek, Ries, Thabrew, Brundiers, & Wickramasinghe, 2010
Historical and cultural preservation	Al-Nammari, 2006; Al-Nammari & Lindell, 2009; Jigyasu, 2001
Recovery planning	Becker & Saunders, 2007; Garnett & Moore, 2010; Meyer, Henry, Wright, & Palmer, 2010; Shaw & Goda, 2004; Smith & Wenger, 2007
Reducing individual and household personal, social, and/or economic vulnerabilities	Arlikati & Andrew, 2012; Garnett & Moore, 2010; Nakagawa & Shaw, 2004; Pomeroy, Ratner, Hall, Pimoljinda, & Vivekanandan, 2006; Shaw, 2006
The delivery of disaster aid and assistance	Berke, 1995; Berke & Beatley, 1997; Berke, Kartez, & Wenger, 1993; Labadie, 2008; Lane, 2000; McAllister, 1993; Pinera & Reed, 2007; Pyles, 2009; Trim, 2004
Building community stakeholder partnerships and participation in planning and decision-making	Cronin & Guthrie, 2011; Esnard, 2003; Garnett & Moore, 2010; Jayantha & Gunasekera, 2006; Lawther, 2009; Mitchell, 2006; Nakagawa & Shaw, 2004; Pyles, 2009; Rathfon, 2010; Shaw, Gupta, & Sarma, 2003; Schilderman, 2004; Wiek et al., 2010
Building local capacity by strengthening competencies and empowering the people of local communities	Anderson & Woodrow, 1998; Berke & Beatley, 1997; Meyer et al., 2010; Nakagawa & Shaw, 2004; Ozcevik, Turk, Tas, Yaman, & Beygo, 2009; Olshansky, Johnson, Toppin, Murosaki, Ohnishi, Koura, & Kobayashi, 2005
Civil society approach to reducing individual, household, and community reliance on external governmental or nongovernmental assistance and fostering independence	Nakagawa 2010; Shaw & Goda, 2004; Tsunshiro, Goda, & Shaw, 2003
Sustainable livelihood approach of reducing the economic constraints and vulnerabilities of disaster impacted people by alleviating poverty and fostering employment opportunities	Alexander et al., 2006; Beck, 2005; Jayantha & Gunasekera, 2006; Mills, Adhuri, Phillips, Ravikumar, & Padiyar, 2011; Pomeroy et al., 2006; Schilderman, 2004; Shaw, Gupta, & Sarma, 2003; Thornburn, 2009
Sustainable community redevelopment	Esnard, 2003; Passerini, 2001; Ozcevik et al., 2009; Rozdilsky, 2001
Project management	Labadie, 2008; Ozcevik et al., 2009; Olshansky et al., 2005

United States (McEntire, n.d.). While someone working in a humanitarian organization might call himself or herself an emergency manager and be involved in activities such as housing reconstruction and local economic capacity building through poverty reduction, emergency managers in the United States have not historically been involved in these tasks (Drabek & Hoetmer, 1991).

As has been reviewed, the disaster literature indicates a variety of ways in which sustainability is being applied within the disaster context; however, the literature does not make a link between the applications of the concept and the role of emergency managers in the communities they serve. Thus, this study sought to understand the extent to which emergency manager's perceive that they have a role in implementing sustainability in addition to what the concept means to them.

Intended Audience

Since the disaster literature has not well articulated the relationship between the sustainability concept and the role of emergency managers, it is worth discussing what, if any, professions were the intended audiences of this literature. In the majority of the literature reviewed, the intended audience has been professional planners (see for example: Ahern, 2011; Beatley, 1994, 1998; Bechtol & Laurian, 2005; Becker & Saunders, 2007; Berke, 1995; Berke, Kartez, & Wenger, 1993; Burby, 1998; Godschalk, 2003; Mandarano, 2010; Pearce, 2003; Schneider, 2002). Planners within government jurisdictions are responsible for planning related to a wide range of activities within their communities, from transportation to land-use and economic development. Thus, it seems intuitive that the strategies advocated by the disaster literature to achieve sustainability be geared towards these professionals. Additional literature reviewed has been geared towards other disaster researchers, asking them to further investigate

the approaches proposed (see for example: Afedzie & McEntire, 2010; Aguirre, 2001, 2002; Alexander, Chan-Halbrendt, & Salim, 2006; Berke, 1995; Berke & Manta Conroy, 2000; McEntire, 2004; Smith & Wenger 2007); policy-makers, asking them to develop new policies (see for example: Schneider, 2004); or, anyone in the "disaster community" so that the proposed strategies be used in the implementation of sustainability (see for example: Godschalk, 2003; Mileti, 1999; Passerini, 2001).

The emergency manager was only stated explicitly as the intended audience in a few select pieces (Becker & Saunders, 2007; Dovers, 2004; King, 2010; Godschalk, 2003; Schneider, 2002, 2004). These works suggest that emergency managers collaborate with other community professionals such as planners and environmental resource managers to incorporate mitigation strategies into the community's development (Godschalk, 2003); define policy and research agendas for the incorporation of sustainability into disaster management (Dovers, 2004) and climate change adaptation (King, 2010); and enhance sustainability through pre-disaster recovery planning (Becker & Saunders, 2007). Schneider (2002, 2004) asks emergency management professionals to expand and redefine their roles and responsibilities in the community, to embrace the principles of sustainable development, and to involve themselves in all aspects of community development and planning. For the most part, the literature is not being directed at local level emergency managers to inform the tasks they currently undertake within their positions (Stehr, 2007).

Some disaster scholars, even without a clear notion of what sustainability is for local level emergency managers, have already begun to question whether the concept even has applicability to the profession (see for example: Aguirre, 2002; Berke, 1995; McEntire et al., 2002; McEntire, 2004). For instance, Berke (1995) suggested that "for those…concerned with

emergency preparedness and response issues (e.g., disaster warning, search and rescue, evacuation and sheltering) the relationship with sustainable development would be less salient" (p.14-15). And, McEntire et al. (2002) would agree. They stated,

> A further problem is that sustainable development and sustainable hazards mitigation may not show relevance to all of the actors involved in emergency management. Sustainable development and sustainable hazards mitigation obviously include environmentalists, urban planners, and engineers, but the relation to other actors such as crisis counselors, search and rescue teams, fire fighters, and emergency managers, is less clear. (McEntire et al. 2002, p. 271)

Without expanded discussion of how sustainability relates to the profession of emergency management within the disaster literature, it is difficult to determine how emergency managers can or ought to be involved in bringing about sustainability within their communities. This observation seems particularly apt given the preceding discussion of emergency managers' lack of authority to undertake, or responsibility to undertake, most of the strategies and tasks to which the sustainability concept is being applied in the disaster context—at least within the United States. Emergency management has made progress overtime in professionalizing (Petak, 1984; Drabek, 1987, 1991; Wilson & Oyola-Yamaiel, 2000, 2005); and this study stands to contribute to its continuing development by exploring the extent to which emergency managers perceive duties related to sustainability are part of their individual responsibilities.

Disciplinary Perspectives

Perhaps one of the reasons that uncertainty as to the link between sustainability and emergency managers exists, is that the academic disciplines responsible for the work on the topic of sustainability in the disaster context are not emergency management scholars but rather what might be loosely termed "disaster researchers". Looking at the affiliated institutional department of the authors writing about sustainability within the disaster context, it is evident that the disaster sustainability literature has been informed by a variety of disciplines. The majority of the

discussion stems from research done in the planning discipline (see for example: Beatley, 1995; Becker & Saunders, 2007; Berke, 1995; Berke, Kartez, & Wenger, 1993; Burby, 1998; Godschalk, 2003; Mandarano, 2010; Mukherjee, 2005; Pearce, 2003; Schwab & Brower, 1999, 2000; Smith & Wenger, 2007). Another discipline with significant contributions to the sustainability literature with respect to disasters is sociology (see for example: Aguirre, 2002; Mileti, 1999; Passerini, 2001; Smith & Wenger, 2007). Other disciplines such as geography (see for example: King, 2010; Shrubsole, 2007), anthropology (see for example: Jones, 2006; McMahan & Seibert, 2001; Menck, 2011; Murphy, 2004; Oliver-Smith, 1990, 1996), and public administration (see for example: McEntire, 2004; McEntire et al., 2002; Reddy, 2000; Schneider 2002, 2004, 2011) have also made contributions to the disaster literature's discussion of sustainability.

Emergency management, as a type of degree program, has been offered within higher education institutions for decades; yet, it has only been since the terrorist attacks of September 11, 2001 in the United States that significant numbers of graduate programs in emergency management have emerged (Jensen 2010b, p. 18). And, it is only recently that emergency management's status as an academic discipline (Jensen 2011; McEntire 2006), its underlying theory (Drabek, 2005; Jensen, 2010b; Klenow, 2009; McEntire 2004, 2005; Phillips 2003) and curriculum content (Alexander, 2003; Collins & Peerbolte, 2011; Drabek, 2007; Jensen, 2010b; Waugh & Sadiq, 2011) have been discussed and debated. Thus, the potential for uniquely emergency management scholarship—scholarship that might explore the connections between the sustainability concept and the practice of emergency management by emergency managers—has only recently emerged (Jensen, 2010b). This study stands to begin to fulfill this potential and thereby contribute to the emerging academic discipline.

Conclusion

This chapter demonstrated that a lack of consensus exists around the definition of sustainability in the disaster literature. It also illustrated the myriad of applications of the sustainability concept within some of the literature reviewed. A review of the intended audience of the sustainability disaster literature and the disciplines informing those discussions reveals a clear disconnect between the strategies proposed and the current role of local level emergency managers in the United States. Thus, this study stood to make important contributions to the discipline and the profession of emergency management by exploring the perception of current county emergency managers of sustainability and the role that they see themselves playing in its implementation within their jurisdictions and beginning to fill the gap identified in the literature. Next, Chapter Three will describe the research methods used in this study.

CHAPTER THREE: RESEARCH METHODS

Chapter Three is organized into five sections. The first section describes the methodological approach used in this study while the second discusses the population and sampling process and the third details the data collection procedures used. The fourth section explains the data analysis process utilized in this research. And, the fifth section discusses this study's limitations.

Methodological Approach

The goal of this study was to understand the implications of the county emergency manager's views of sustainability for the profession of emergency management. With little discussion of this issue and no empirical work on the topic, the researcher began with exploratory research questions (i.e., how do county emergency managers conceptualize sustainability, and what is the perceived applicability of sustainability to emergency management?). Due to the exploratory nature of this study a qualitative approach was necessary to examine how sustainability is conceptualized by practitioners and the extent to which they see it as applicable within their work lives.

The methodological approach to this study was informed by an interpretive constructionist perspective (Taylor & Bogdan, 1998). Interpretive constructionist researchers have a commitment to understanding social phenomena from the actor's perspective, to capture how people construct their realities, and they do so through qualitative research methods (Taylor & Bogdan, 1998). Qualitative methodology is research that produces descriptive data in the form of people's own words and observable behaviors (Taylor & Bogdan, 1998, p. 7). It is inductive and allows researchers to "develop concepts, insights, and understandings from patterns in the data rather than to collect data to assess preconceived models, hypotheses, or theories" (Taylor &

Bogdan, 1998, p. 7). Qualitative research demands that researchers attempt to suspend or set aside their own perspectives and views of the world to understand people from their own frames of references, in the context of their past and the situations they find themselves in and the meanings that they attach to things in their lives (Taylor & Bogdan, 1998). This orientation to research is central to the interpretive constructionist perspective (Taylor & Bogdan, 1998).

Qualitative methods enabled the researcher to gather descriptive data from county emergency managers themselves, to induce from the data county emergency managers' perspectives of sustainability, and to present to the reader county emergency managers' views of how sustainability applies within the context of their jobs. Qualitative methods were particularly suited to this emphasis on the county emergency manager's perspective since the methods are deeply rooted in the expression of the subject's perspective from his or her own words and actions (Taylor & Bogdan, 1998).

Population and Sampling

A purposive sampling method was used to select participants in this study. As the literature review demonstrated, the sustainability discussions in the disaster literature have not been oriented towards emergency management professionals. In order to understand what sustainability means in the emergency management context, it is appropriate to turn to those professionals. The population for this study was county level emergency managers in the states of Florida (n=67) and North Dakota (n=53), states chosen because they are regularly faced with significant disasters. County emergency managers were chosen as the unit of analysis to give a representation of local level perspectives on the topic of this study as they are the lowest level of mandated local emergency management officials in the United States. A total of 25 county emergency managers were interviewed including 13 representing Florida counties and 12

representing North Dakota counties. Contact information was obtained for these county emergency managers in both states from their respective state emergency management websites.

Data Collection

In order to proceed with data collection, Institutional Review Board (IRB) approval was sought to conduct this study. Once approval was received, the study followed Rubin and Rubin's (2005) Responsive Interviewing Model both for data collection and data analysis. Generally, qualitative researchers are concerned with how people think and act in their everyday lives (Taylor & Bogdan, 1998). Therefore, they adopt data collection strategies that are natural (e.g. they parallel how people act in the course of their daily life) and unobtrusive (Taylor & Bogdan, 1998). Qualitative researchers gather information by observing, talking with, and listening to the people being researched in their ordinary settings; analyzing what they have heard, and then conveying to others in the perspective and experiences of the subjects of the study (Rubin & Rubin, 2005). These researchers often seek understanding through the use of qualitative interviewing that seeks to mimic normal conversations as opposed to tightly structured question-and-answer exchanges (Taylor & Bogdan, 1998; Rubin & Rubin, 2005). To understand how county emergency managers conceptualize sustainability and applications of the concept to their work, qualitative interviews were used to explore the meaning of the term and implementation of the concept in local level emergency management.

Data collection for this study was conducted through face-to-face and telephone interviewing. Interviews took place during the summer of 2012. Potential participants were contacted via email and invited to participate in the study with additional details about the study provided in an information sheet attached to the email. See Appendix A for a copy of the invitation letter and Appendix B for a copy of the information sheet. Upon their consent to be

interviewed, an appointment was made for a method of interview (i.e. telephone or face-to-face), date, time, and location that was convenient for the participant. The interviews lasted approximately one hour depending on the participant's availability and responses to questions.

An interview guide was used to facilitate the interviews. In keeping with the Responsive Interviewing Model described by Rubin & Rubin (2005), open-ended main questions were developed to allow for the gathering of answers with depth, detail, vividness, richness, and nuance (Rubin & Rubin, 2005). In addition, the information sought from each question was identified to facilitate the researcher's development of follow-up and probing questions during the interview. Participants were asked the following three questions:

- Tell me about your experience in emergency management
- What does your job of as emergency manager entail?
- What does the concept of sustainability mean to you?

See Appendix C for detailed information regarding the information sought from these questions.

All interviews were digitally recorded by the researcher and uploaded to the researcher's personal computer. The researcher maintained sole access to the audio files. The interviews were transcribed and codes substituted for identifying personal characteristics. The researcher was the only person in possession of the codes linked to participant information. The interview recordings were deleted once they are transcribed and once the transcriptions and codes are no longer relevant to this research, they will be destroyed as well. In the final product, no identifying characteristics have been used.

Data Analysis

Pursuant to the Responsive Interviewing Model data analysis was conducted in two phases (Rubin & Rubin, 2005). During the first phase of analysis interviews were transcribed and coded. During the second phase of analysis the coded data was analyzed.

The first phase of the Responsive Interviewing Model began with the transcription of the interviews. While interviews were being transcribed, memos were written containing the researcher's thoughts regarding how the interview went, memorable quotes, concepts and themes that were suggested, and any other thoughts that occurrred to the researcher during the transcription process (Rubin & Rubin, 2005, p. 205). When the interviews were transcribed, the researcher then summarized the content of the interviews including the main points made during the interview that addressed the research question and any identified concepts or themes (Rubin & Rubin, 2005, p. 206). The next step was to recognize, clarify, and elaborate themes and concepts in the data. According to Rubin and Rubin, themes and concepts can be suggested in the literature on the topic under study and sought out in the data (Rubin & Rubin, 2005, p. 210). Thus, this study utilized two initial codes that emerged during the literature review and other codes that that emerged from the data.

The disaster literature was reviewed for how it could inform one's understanding of the sustainability concept and how it ought to be applied within an emergency management position in local government. As demonstrated in Chapter Two, the literature did not provide definitive answers. Thus, the interviews were coded in a systematic fashion for emergency manager *conceptualizations* and *applications* by placing a label or code next to each data unit matching the concept or theme (Rubin & Rubin, 2005, p. 216-219). The researcher used these codes based on the following description of their meaning:

- *Conceptualizations* This code was used to label any data that reflected what an emergency manager believed sustainability was or meant. It is a reflection of their personal views. In a perfect world emergency manager conceptualizations would have been indicated by a sentence along the lines of "sustainability is…" but, the researcher used the *conceptualizatio*n code upon seeing any reference to or description of sustainability as a concept. This resulted in single words, phrases, and/or entire sentences or passages being coded *conceptualization*s within the same interview.
- *Applications* This code was used to label any data reflecting an emergency manager's operationalization of the sustainability concept. Operationalizations included job-related practices or job-related tasks and activities, philosophical approaches to the job, and functional areas of emergency management and tasks and activities associated with them, whoever would be responsible. This resulted in single words, phrases, and/or entire sentences or passages being coded *applications* within the same interview.

Additionally the researcher analyzed and coded the data for concepts and themes not presented in the literature review that may explain emergency manager conceptualizations and applications and were revealed through data analysis. For instance, concepts and themes related to emergency manager backgrounds and general views of what the job of a local government emergency manager entails were sought while remaining open to any themes emerging from the data.

During the second phase of data analysis the coded data was analyzed for broader implications in two stages. In the first stage concepts and themes were sorted and summarized, listing the main points in the interview text associated with each category. The concepts and themes were then sorted and ranked to order the information according to levels of frequency indicated in the data and also indicated levels of importance. Additionally they were sorted and

compared by background characteristics and by how a specific concept was used to see if the coded data highlighted the concepts or themes in any distinct way (Rubin & Rubin, 2005, p. 225-226).

Next, the concepts and themes were combined and weighed. The complementary understandings of the concepts were combined, the relationships between distinct concepts were inferred from the way they were described in the data, and their relationships were worked out and evidence in the data found to support or modify those inferences (Rubin & Rubin, 2005, p. 228). Finally, the different parts of the findings were integrated by being checked for accuracy and consistency and being modified if the initial interpretation was found to be inadequate (Rubin & Rubin, 2005, p. 229).

This study stopped short of The Responsive Interviewing Model's second stage of analyzing coded data wherein the findings are examined to see how the concepts and themes came together into a coherent theory (Rubin & Rubin, 2005, p. 231). The researcher did not necessarily expect data analysis to proceed into the development of a full theory. It was anticipated that analysis would stop short of this point, and it did for various reasons including the researcher being a novice at qualitative research.

Initial Steps Taken

Spring 2012 the researcher was in a qualitative research methods class; and, as part of the requirements for this qualitative research methods class, the researcher was required to conduct a series of qualitative interviews. The researcher decided, with approval from her advisor, to use this requirement as an opportunity to do some initial work interviewing in the area of potential interest for her thesis. The researcher wanted to be able to use the data gathered toward the development of her thesis research project. In order not to lose such data, the researcher decided

to seek, and eventually received, IRB approval to conduct the interviews and report on their findings. Please see Appendix D for the IRB approval form. Because only two interviews had been done as of that point only initial analysis had been conducted using the Responsive Interviewing Model; and, the researcher was not yet ready to share any analysis. More interviews and analysis had to be conducted first. Yet, this initial research had reaffirmed for the researcher that this topic would be the subject of her thesis; and, that the interview guide was designed in a way that allowed the researcher to collect the data that she needed. Following the researcher's thesis proposal, an amendment to the initial, approved IRB protocol was filed to reflect a few minor changes to the interview invitation letter and guide. Of note, the invitation letter, information sheet, and invitation guide in Appendices A, B and C are the most recent copies of these documents. This amendment was approved. Please see Appendix E for the amendment approval letter.

Limitations

This study was limited in the following ways. The findings will not be generalizable to all county emergency mangers due to the small sample size used for this project (Taylor & Bogdan, 1998) and the sampling methodology selected (Taylor & Bogdan, 1998). It is hoped that 25 interviews were sufficient to illustrate any variety of conceptualizations of sustainability and perceived applications that might exist within the local government emergency management context, however, it will require further investigation of the topic to ascertain that these conceptualizations and perceived applications can be generalized to all county emergency managers in the United States. This study could also only hint at the implications of these findings for the profession and discipline of emergency management, with further research in this area, more implications can be drawn for the development of emergency management as a

profession and as a discipline. Additionally, the participation rate for the study may have resulted in sample bias (Taylor & Bogdan, 1998). Another significant limitation to this study is the level at which sustainability is being analyzed in emergency management. Sustainability in this study was investigated at the local level and may vary in conceptualization at the state level, the federal level, the international level, and may also vary across the public, private, and nonprofit sectors, and for those involved in humanitarian assistance. Lastly, the researcher's relative lack of experience in conducting qualitative research has to be acknowledged. Consequently, some opportunities to probe for greater depth were lost and the data is not as rich as it might have been had a more experienced researcher conducted the interviews.

Conclusion

This chapter reviewed the qualitative research methods that were used for this study. Following Rubin and Rubin's (2005) Responsive Interviewing Model, a pre-developed interview guide was used to conduct telephone or face-to-face interviews with 25 county emergency managers in the states of Florida and North Dakota. The Responsive Interviewing Model used for data collection was also used to transcribe, code, and analyze the data gathered.

CHAPTER FOUR: RESULTS

This study was conducted with the goal of answering the question: how do county emergency managers conceptualize sustainability and apply the concept in their work-lives? A series of questions were posed to county emergency managers with that goal in mind and the results are reported here in four sections. The first section describes the sample for this study. The second section addresses contextual factors to understanding how county emergency managers conceptualize sustainability and their views related to the term "sustainability". The third section presents results related to the significance and priority of sustainability as conceptualized in emergency management; and, lastly, the fourth section describes the ways in which county emergency managers apply the term sustainability.

Sample Profile

This study was designed to analyze how county emergency managers conceptualize sustainability. Demographic data were collected during the interview process to learn more about the emergency managers, their positions, and their jurisdictions. This information was then used to determine if any relationships existed between the findings of the study and the characteristics of the interviewees.

A total of 25 county emergency managers (N=25) were interviewed in this study. Of these interviews, 12 emergency managers represented North Dakota counties, and 13 emergency managers represented Florida counties. The analysis of basic demographic data revealed that females represented 32 percent of the sample (N=8) and males represented 68 percent (N=17). Among the participating county emergency managers, 72 percent (N=18) have at least some college education. Of the 72 percent with some college education, 8 percent had some college education, 44 percent had a bachelor's degree, and 20 percent had a master's degree. Of those

with college degrees (N=16), emergency managers have degrees in business administration (N=3), public administration (N=3), emergency management (N=2), nursing (N=2), and the rest have an eclectic mix of degrees indicating that within this sample there is no typical degree among county emergency managers.

The participating emergency managers had a variety of backgrounds. Most emergency managers came from a first-responder or military background. The majority of emergency managers (N=15) self-identified as having experience in one or more of the following —24 percent had a military background (N=6), 16 percent had a firefighting background (N=4), 12 percent had an emergency medical services background (N=3), 12 percent had a law enforcement background (N=3), and 8 percent had a 911-dispatch background (N=2). The remaining 40 percent of emergency managers had experience in the one or more of the following backgrounds— emergency management (N=2), student (N=2), business (N=1), safety (N=1), marketing (N=1), public health (N=1), appraiser (N=1), and nursing (N=1).

The researcher was interested in assessing the emergency managers' experience but found that county emergency managers described emergency management experience widely. A number of them referred to time spent within an emergency management position specifically, some referred to time in emergency management relevant positions, some did not offer a distinction between the two. Thus, it is safe to conclude emergency managers believe that they have "experience", but the researcher was unable to discern from the data the degree of their experience in a professional emergency management capacity.

The majority of participating county emergency managers held full-time positions as government employees (88%, N=22), only three participants held part-time positions as emergency managers in their counties (12%, N=3). Of those interviewed, 28 percent (N=7) had

additional responsibilities in their counties such as that of 9-1-1 Coordinator, Floodplain Administrator, or Risk Manager in addition to the title of Emergency Manager.

The resources available to the interviewed emergency managers varied across the counties represented. The average number of personnel in the emergency management offices represented in this sample is 5.44 people (SD= 5.52); however, when the emergency management offices are looked at individually, another picture emerges — one that highlights the incredible differences between emergency management offices in the two states where emergency managers were interviewed. The majority of county emergency managers interviewed in North Dakota (N=9) had an emergency management office comprised of one person (themselves), one county had an emergency management office staffed by 2 people, and two counties had an emergency management office with a total of four positions. In stark contrast the county emergency managers interviewed in Florida had an average emergency management office staffed by 9 people (SD=5.58). The smallest emergency management office had 4 personnel and the largest, 20.

Another significant difference in available resources between county emergency managers in North Dakota and in Florida is the make-up of the first-responder agencies with which they work such as law enforcement, firefighting, and emergency medical services. Of the county emergency managers interviewed, only 64 percent worked with fully funded first-responder agencies (N=16) whereas 36 percent reported that their counties' first-responder services are volunteer-based (N=9). While all of the interviewed Florida emergency managers work with fully funded first-responder services (100%, N=13), the majority of the interviewed North Dakota county emergency managers worked with volunteer-based, first-responder services (66.7%, N=8) and one worked with a mix of both.

The funding status of the first-response agencies in the states of North Dakota and Florida is correlates with the number of people in those states. Population is a proxy measure of rurality and suggests the tax-based resources available to a jurisdiction. Using data from the 2010 U.S. Census, emergency managers in North Dakota served jurisdictions with an average population of 29,909 whereas emergency managers in Florida served jurisdictions with an average population of 820,251. The smallest North Dakota county in the study had a 2010 population of 2,420 and the largest county, a population of 149,778. The smallest Florida county in the study had a population of 73,090 in 2010, and the largest county had a population of 2,496,435.

While there is a difference between the counties in North Dakota and those in Florida, and a wide range of experience, background, and education among the county emergency managers interviewed in those states, few differences were discernible between the views shared by emergency managers in Florida versus North Dakota. In the areas where a difference was observed, the researcher will highlight those differences in the following sections.

Conceptualizing Sustainability

In the first of the two subsections that follow, the context for understanding emergency manager conceptualizations of sustainability is set; and, in the second subsection, themes related to what sustainability means to emergency managers are presented. Interestingly, the themes that emerged through data analysis related to conceptualizations were often mutually exclusive of another theme; thus, the themes that were discovered are presented one in juxtaposition to another in the following pages. As a note to the reader, the quotes in the following results sections represent the entire sample (i.e., at least one quote is included from each emergency manager interviewed), and in the instances where multiple block quotes are provided as evidence, each quote represents a different emergency manager's perspective.

Context

Key to understanding how county emergency managers conceptualize sustainability is understanding the context for these conceptualizations. In this section, contextual factors that may explain why emergency managers conceptualize sustainability the way that they do are explored.

A significant number of emergency managers found the concept of sustainability to be complex, to these emergency managers the complexity is due to the fact that many things influence the degree to which sustainability is achieved, that is, "this issue of sustainability is incredibly complex because they're so many pieces to a puzzle". Some described the concept as nebulous and others described it as a concept that is generally not well understood. As one emergency manager stated, "I mean, a lot of people probably do not even know what sustainability means."

It often seemed that emergency managers thought of sustainability as so complex that they did not have a clear view of what it meant:

> That is one of those issues that I guess you could run from top to bottom. You know, you talk about personal sustainability, communal sustainability, your…everything from self-reliance of the public to self-reliance of the private sector, you know, all kinds of employee sustainability, and then your sustainable communal infrastructure, resources, energy, water, air, environmental, I do not know, the you got the whole piece of equipment sustainability, and sustainability of infrastructure and services, and, you know, that whole environmental, social, economic sustainability it has so many pieces and parts.

To these emergency managers, it would appear that sustainability is made up of so many components that to try and describe it in a concise fashion that encompasses all of it aspects is nearly impossible.

Throughout the interviews, it became evident that the emergency managers situate sustainability within a community context, an organizational context, and also an individual

context. The fact that emergency managers applied sustainability at multiple levels is an example of how complex they find the concept.

> Sustainability is for a community not only to…for a community to grow with the needs that is pushed on it. You know, it is not…it is not just to sustain as far as go with the development, but also exceed it…it is more to enhance with the community that is growing.
>
> I also manage the budget, our general fund budget from the county, to sustain the office and personnel in the office.
>
> Sustainability has to deal whether your businesses also have the opportunity or can get up very quickly, up and operational, so there is the link back from citizens, to employees, to businesses.
>
> If you are talking about personal sustainability…you move up the line and you ask a business to be more sustainable, or you ask an agency to be more sustainable, or you ask the local government to be sustainable. At each level as you go up the spectrum, the issues become more numerous…the resources are limited so you have got to then decide how much you want to dedicate to…to what kind of sustainability.

Situating sustainability within so many contexts seemed to contribute to the difficulty of some emergency managers to articulate a clear conceptualization of the concept.

Additionally, a substantial number of managers identified sustainability as a concept that is very broad in nature. As one put it,

> Well, it…it, I mean, it has a variety of…of definitions on my mind depending on what you are talking about. You know, whether you are talking about funding to support programs and making sure that you have the funding to support them. When it comes to like the green or the environmental concepts, it means, you know, preserving water and resources to make sure that they are there for future generations. For emergency management program, it could mean continuously preparing and…and pushing the message out there to…for people to maintain their guard, keep their disaster kits, have a plan, so that we sustain our…our readiness to deal with the, you know, the threats of the future. So, it…it can have a variety of meanings depending on how, you know, what topic you are talking about.

The vast nature of the concept is evident in this emergency manager's description of sustainability. From his discussion, it is clear that the concept can be applied in many ways and to some extent the way in which it is applied will dictate its meaning.

Other emergency managers often had difficulty seeing how to begin a discussion about sustainability due to the concept's broad nature. For example, one stated, "I mean there is sustainability as far as like technology, there is sustainability like personnel, resources, so I am not sure where you are going with it". Several emergency managers asked the researcher for the context within which to discuss sustainability citing its wide applicability and inclusivity as a reason for needing pointers. Many of the emergency managers applied the term to a wide range of topics and had difficulty in choosing a starting point indicating that for these individuals the topic is too broad to be clearly and succinctly described or perhaps that is most easily addressed by identifying its parts.

Those emergency managers that did immediately describe the concept within the context of emergency management still noted its broad nature. As one stated, "Well, it's a pretty broad topic when you look at emergency management, you can talk about it in terms of sustainability within the profession, sustainability within the capabilities to respond…". Even when asked about sustainability specifically within the emergency management context, emergency managers still had a broad conceptualization of the term and needed further guidance.

> It means a lot of things. I think it needs to be…you have to give me more context because sustainability in my mind depends on what we are talking about. If we are talking about an emergency management organization as a standalone department in sustainability in its right in that regard, that is one thing. If you are talking about the concept of sustainability in the community and the whole community concept, that is another. So, what are we looking at?
>
> Well, sustainability is a big word. You know, it…I guess you need to help me kind of put it into a context because…well, again, you know obviously it only means in…in my context, and the reason why I say that is because, you know, right…there is…you know,

> we are very highly grant funded and sustainability in grants, you know, under UASI sustainment is, you know, sustaining programs, sustaining and funding to sustain that kind of stuff, so that has that meaning. And…and that is very much a, you know, is very much of a sensitive word. And then, there is economic sustainment in terms of emergency management. We have…as a division, we have lost 2 positions now in the last 2 years. So, sustaining our program and programs in…in light of budget cuts and losses I guess is another element that comes to mind. And then of course, sustaining communities, you know, after disasters in terms of, you know, mitigation if you will, you know, our PDRP, post disaster redevelopment. So, there are 3 different paths that you can go down.

When presented with this wide range of paths along which to discuss sustainability within the emergency management context, it becomes much easier to understand why clear conceptualizations of sustainability were so challenging for emergency managers to articulate. These excerpts illustrate the breadth and complexity that managers attached to sustainability and that this context likely impacts their conceptualizations of the term. In the next section, the varying themes related to what sustainability means to the interviewed county emergency managers are presented.

Contrasts in Meaning

As presented earlier, the vast majority of county emergency managers were unable to clearly express what sustainability meant to them, if anything at all, when asked, "what does the concept of sustainability mean to you?" "I do not know how to word it exactly" was a common refrain from emergency managers before they launched into discussions of activities they associated with sustainability, or struggled to find words that would convey their views of what sustainability meant as this emergency manager did:

> Long-term maintenance of, let us see, of…of…of a lot things. Specifically, responsibility, the wellbeing of…of making sure that the environment that is around here is a safe environment. Knowing sustainability of…of prevention, the mitigation processes for…for my area in specific…So, the…yeah, just the long-term maintenance of…of, you know, a well-rounded community, making sure things are in place. Structure. I guess I will leave it at that.

Despite the problem of lack of clarity in conceptualizations of sustainability, the following themes related to the meaning of the concept emerged: sustainability as an end-state versus a continual process, present versus future tense, improvement versus survival, and distinct concept versus confusion with other terms. As the following sections will present, the contrasts evident in the meanings that emergency managers attributed to sustainability underscores the lack of agreement in how the term is conceptualized.

End-State vs. Continual Process

Many of the emergency managers seemed to believe sustainability to be an end-state—the achievement of which being a sum of community efforts. In other words, sustainability was the end result of a sum of processes/activities that were conducted in the community, in organizations, and/or by individuals.

> …having people know what their roles and their responsibilities are, and also collectively getting together as a group, and having others know what, you know, agency 1 or agency 2, what their roles are, their responsibilities are.

> Well, sustainability is the ability to put processes and activities into place that will allow us to maintain or continue at a certain level of function and so if we are maintaining that level, if we reach a certain level and we want to maintain it, the other term that is used is to sustain it.

Yet, not all emergency managers saw sustainability as an end state. Some emergency managers seemed to see sustainability as the opposite—as a goal that was worked toward through a never-ending process but not necessarily a goal that could ever be achieved.

> Sustainability means the capacities and capabilities to maintain a current, or maintain a level of function and a condition, you know, maintaining your condition from a pre-disaster perspective and also to be able to withstand impacts whether they are flooding or wind or wildfires through mitigation activities.

> Well, the day that there are no more threats to our community I think is when we would be resilient and sustainable. That will never happen. There is…there is always a threat and each threat is different based on where you live in…in the world, but I…no matter what we do if we want to live in paradise in south Florida

> there is going to be those threats and we will be more sustainable, more resistant…resilient, but never completely, and it is a…it is a goal that we will strive for, but we will never reach.

These interviewed county emergency managers did not indicate that they believed sustainability to be something achieved at one point in time.

> It's not something that you can turn a switch on and say "we're gonna do it" and then it happens overnight. It takes a long time… we have to take the opportunities and work hard at building sustainability…I talk about it often in terms of building a culture in a community…
>
> This is like a…a snail's pace that the things we would do are. We would forecast those things, but then we would implement them over decades as opposed to over hours or days.

To these emergency managers, sustainability was in fact something that had to be nurtured and implemented over time. As an emergency manager put it, "You know, sustainability, it basically means your future and on" a statement with which many of the interviewed county emergency managers would have agreed. Whether viewed as attainable or not, every emergency manager interviewed perceived sustainability as generally worth pursuing.

Present vs. Future Tense

When discussing sustainability, many county emergency managers included time as a dimension of the concept. Specifically, emergency managers presented contrasting views of the time period toward which the sustainability concept is directed. Some county emergency managers oriented the sustainability concept to the present, e.g., sustainability is "doing your job day to day".

> …Well, I guess I would have to say, you know, that whole disaster resilience and sustainability is an ongoing philosophy. To me, it is something that you do day-to-day. Because you do it day-to-day, you build strength in relationships, and networking, and plans, and all of those things so that when the time comes to execute…

> Everyday. I think whether it is holding a meeting, preparing a plan, changing or revising a plan, working with your first responders, working with other coordinated emergency managers around the area on a joint effort for an exercise, or…or…or a coordinated plan for multiple counties or your region. I think…I think we practice sustainability all the time.

While emergency managers in both North Dakota and Florida noted this theme similarly, a significantly larger number of emergency managers in North Dakota thought of sustainability in the present than in Florida. Half of the interviewed emergency managers in North Dakota described sustainability as something worked on every day, continuously, while only 3 did so in Florida.

On the other hand, some emergency managers oriented sustainability to the future. These emergency managers clearly believed that efforts toward sustainability in the present would be reaped at a much later date.

> So, sustainability is, again, it is kind of a new one because I do not think people have thought about the community in terms of, you know, are we going to…what are we going to look like in 50 years. You know, they may look at what is the street going to look like in 15 to 20 years, but you know how far down the line you go and how…how sustainable is it for all kinds of different vulnerability factors.

As a result, their conceptualizations of sustainability included long-term outcomes of what was desired from sustainability goals, goals that are discussed in the following section.

Improvement vs. Survival

County emergency managers conceptualized sustainability as an end-goal along a continuum. Some emergency managers saw the goal of sustainability as improving the conditions in their community so that the community quickly bounced back from disasters as opposed to just survived them. These emergency managers saw sustainability as reducing their communities' vulnerabilities.

> I look at sustainability as… we improve things now, we improve our structures, we improve our training, so that when bad things happen the impact is less, so we are able to maintain, and to, well actually just to maintain our current existence and our current ways of life through preplanning.
>
> …trying to sustain is part…one of our more important goals. You know, it is again, we are trying to develop and when we try to develop it is not to get as fast to where we were, it is try to get us better than what we were. It is not rebuilding to what it previously was, but it is to make better. It is always to improve what you had before or currently have.

These emergency managers described sustainability in terms beyond survival and maintenance. They conceptualized sustainability as improving a past or current state, of making things better. They saw sustainability as also meeting the community's best interest and needs, and as protection from future damages.

Yet, the majority of interviewed county emergency managers conceptualized sustainability as maintaining or continuing. These emergency managers looked at sustainability as being able to keep existing programs, plans, relationships, or resources into the future.

> Sustainability to me means to be able to maintain that level of service. I would probably tell you I would probably try to use it in terms of maintaining, overall maintenance, overall management. I mean, these are probably some other words that I would use besides sustaining or sustainability.
>
> Well, I guess sustainability as far as technology is maintaining the systems, making sure that there are personnel to maintain the systems, continuously checking on the systems to make sure that they are up and running, make sure that they are redundant, reliable, that they are scalable so that they can be increased or decreased based on the need, so those are all sustainability issues. Sustainability as far as resources is continuously inventorying, verifying that all resources are available and ready to go, making sure that nothing sits too long basically, and that it is used, and that it is exercised, so very similar-type activities…or very similar words, I guess, would be used in sustainability whether it is resources, personnel, the equipment, whatever.

A few county emergency managers conceptualized sustainability in the most basic sense. These county emergency managers saw sustainability as the ability to keep existing.

> It is pretty rooted in basic survival and…and the need for any organization to be sufficient and self-sufficient enough to be able to operate in an area in a way that

> allows it to be successful and allows it to also provide the services in a way that is going to be the biggest benefit to the…to the most that it is designed to serve…
>
> Making sure everybody stays safe and is prepared for, you know, disasters or really anything. Doing your job day-to-day just making sure that you have the correct training equipment, whatever it takes to do your job effectively and efficiently to stay safe.

To these emergency managers sustainability is simply being able to survive disaster events and their damages or to survive daily life.

Distinct Concept vs. Association with Other Common Terms

While some of the participating county emergency managers maintained that sustainability is a distinct concept, they nevertheless noted that within emergency management the term is not always referred to as "sustainability". Moreover, emergency managers interviewed often tended to associate the concept with other terms, with a particular tendency to use sustainability interchangeably with other terms common in emergency management.

Over half of the emergency managers felt that sustainability discussions were occurring under different guises, without being labeled with the term sustainability.

> I guess we have, maybe not specifically that, but you know, I guess in different discussions. You never know what somebody is going to come up, you know, and just start talking about, so maybe not specifically on that topic, but you know, it has definitely been in there, in the discussions.
>
> I do not think we have ever specifically sat down and talked about the meaning of it or using that exact verbiage itself, but in a roundabout way it has been talked about. It may not have been specifically that word utilized.
>
> But, sustain, that word does not…I…you and I are talking that word. It does not normally show up in anything that I know of.
>
> I mean, there are many things that…that we talk about that are a part of disaster resilience and sustainability that I do not think we necessarily throw out the terms, you know, sustainability, but it is…that is what it is.

Several emergency managers indicated that emergency management professionals were discussing various elements contributing to sustainability individually without tying them to sustainability explicitly.

Resilience, the notion of bouncing back from disasters, is a common theme with which county emergency managers associated sustainability. Some county emergency managers described sustainability with the end-goal of being more resilient and having the ability to bounce back from disasters. Others used sustainability and resilience interchangeably when discussing the concept of sustainability.

> I look at sustainability as…as part of our recovery that we…it is more of getting back…indemnification, getting back to the original way the community was, and that includes improving the way the…the community is structured now so that when bad things happen the impact is lessened, and one of the best things about sustainability is the fact that our mitigation program improves our sustainability, that we…we improve things now, we improve our structures, we improve our training, so that when bad things happen the impact is less, so we are able to maintain, and to, well actually just to maintain our current existence and our current ways of life…

Similarly, many county emergency managers associated sustainability to disaster resistance, or the idea of withstanding impacts. As with the term resilience, many managers interviewed saw being sustainable as being able to withstand disaster impacts and often applied the concepts interchangeably.

> I look at it as something that we would love to strive for knowing that complete 100% sustainability is…is not attainable in terms of protecting the public from…from any type of disaster, but it is a good goal to shoot for that we have the ability to reduce the threats in some areas, and to increase our ability to protect people by reducing the vulnerabilities that they have, and that makes their lives sustainable. Maybe not a total sustainability of the community, but a…or a resilience of the community, but our ability to get back to normal to have less damage and that damage that we do sustain to be able to deal with it and get back to normal as quickly as possible.

> Sustainability as far as the facility that I am in, this building was designed to 200 mile an hour winds. We have no roof hazards. We have high-impact windows and

> doors, the glass around the building, and then on top of that we also have what we call…it is an Exeter product. It is that heavy metal mesh as well. So, sustainability for the physical piece of the public safety center is…it cannot go any higher than this.

Continuity and redundancy are two additional terms with which the interviewed county emergency managers frequently associated sustainability. Many emergency managers discussed sustainability in terms of planning for operations continuity in the event of a disaster for their organization and for other agencies in the community. A few emergency managers completely replaced a very common and basic understanding of sustainability with what is commonly understood in the field as "continuity". These few participants in fact stopped using the word sustainability and substituted the word continuity for the remainder of their discussions.

> Well, that goes back to continuity of operations. Do you have the ability to relocate your operations and have you determined what are those critical functions you need to get up and running immediately within 24 hours? And then to expand that out what do you need to be up and running by 48, 72, and maybe a month out?

> Sustainability is, you know, first, 2 different things for me. Number 1, to be able to sustain the services necessary and the infrastructure necessary to support the residents and visitors of the county. Long-term sustainability is in the face of massive disaster to be able to sustain a level of government and a way of life that the residents and visitors would expect.

They also discussed sustainability in terms of planning for the continuity of government and the services that it provides and in terms of redundancy of communications, equipment, and personnel for their emergency operations centers during times of crisis.

As has been reviewed, county emergency managers have broad conceptualizations of sustainability and there is little consistency in conceptualizations from emergency manager-to-emergency manager. The following section will discuss applications of sustainability to emergency management according to county emergency managers.

Significance of the Sustainability Concept to the Profession

Despite their difficulty clearly articulating a conceptualization of sustainability and their tendency to strongly associate the term or even use it interchangeably with others, emergency managers widely recognized that the concept was important to the profession. Most emergency managers included in their descriptions of the term statements such as "…it's a pretty broad topic but I think it can be a very significant issue…" or "I definitely think there is a place for it and there is definitely a need for it; there is not a lot of understanding as to why it is important…". Moreover, emergency managers recognized that they have an important role to play with respect to its implementation.

Stating, "We are the focal point to keep that kind of vision alive, that concern," an emergency manager expressed a view shared by others—namely, that not only is their emergency management role significant it might even be crucial to the sustainability of their communities. One emergency manager also stated, " I will tell you that to me, the emergency manager is one of the, I think, one of the key pieces of, you know, building a sustainable community…" a sentiment echoed by another interviewee:

> Oh, I say absolutely, absolutely. I think without the emergency managers, and a concerted effort, and a preplanned effort to respond to any kind of disasters, the community will suffer and probably to a point of not being able to survive it or bounce back from it. …emergency manager[s] are absolutely crucial in sustaining the community and sustaining anything in our area.

A significant number of county emergency managers described the concept as so significant that it can be understood as a philosophy or value underpinning the profession of emergency management. Some described it as the overarching theme running through the four phases of emergency management and applying to everything that is done daily, "I think it's a theme that

kind of overreaches everything that we do". To these emergency managers, sustainability is the whole point of emergency management and a culture of sustainability is what the field promotes.

> The whole program is sustainability. I mean, everything we do we try to keep going. Correct? I mean you try to do the planning, trying to scratch enough to keep a certain amount of back stock, gloves, shovels, you know whatever your county needs to meet its normal threats, you know, that is your sustainability.
>
> …Well, I guess I would have to say, you know, that whole disaster resilience and sustainability is an ongoing philosophy….Because you do it day-to-day, you build strength in relationships, and networking, and plans…

Everything that they do, from preparedness campaigns to continuity of operations, relationship building to planning for prompt community recovery, is done to pursue community sustainability.

A Priority Within the Profession?

Yet, just because many thought sustainability was important—perhaps even a professional value or general orientation—does not mean that they thought discussions of the concept were being widely held within the profession, that what discussions there are were being prompted from within the profession, or that sustainability was a priority as a result of these discussions.

Emergency managers had varying views when it came to whether sustainability was actually a topic of discussion within the emergency management profession. A few emergency managers felt that the topic of sustainability was not being discussed in the emergency management world, while more than half felt that it was a discussion that was in fact occurring to some extent.

To the extent that an explicit discussion of sustainability has taken place in the emergency management community, it appears to be prompted by professional events and led by

outsiders. When asked about the forums for their discussions of sustainability, a few emergency managers described them as occurring at conferences or at regional and state meetings.

> Well, we…we…we have had talks on sustainability numerous times. Yes I have had conversations, but most of them are external to us. It is stuff that the state will have meetings or there are always people having lectures on sustainability and we all attend those.

> Yeah, to a certain extent. I mean, I guess that it depends on how you…how you…what area you are placing sustainability in. Like I said, most of the…most of the talk that we hear about sustainability usually comes from environmental services or the leadership talking about, you know, conserving fuel, and…and cleaning waterways, and minimizing, you know, the use of resources, and things like that. You do not really hear it in the emergency management perspective, at least in my county level. You know, I look at it as sustaining preparedness. Not necessarily resources.

Emergency managers are hearing about sustainability from external sources, sources that discuss sustainability within their own contexts as opposed to the emergency management context itself. And, these discussions appear to be one-sided, i.e., without emergency management input of what can, could, or should be done.

Although emergency managers were indicating that discussions of sustainability were occurring, it became clear throughout the interviews that very little conversation about sustainability, what it means, what it looks like and how it is achieved was actually occurring at the local level.

> Quite frankly, I do not know that in the last 2 years that I have ever talked to them about "Hey, let's talk about sustainability." So, the answer to your question is no. Is sustainability a concern? Yes. But, do we, as I said, do we sit down and "Let's, let's have a beer or let's go to lunch or let's hold a meeting at the…let's put that on the agenda for the region 7 meeting? No."

Regardless of the importance of the concept, the need for a discussion about it, and the extent to which it has actually been discussed (or by whom), sustainability has not been a priority among local emergency managers.

> It has not been a priority with anyone I know in the emergency management community and once again it comes down to the fact that we…we really kind of get tunnel vision into what the disaster du jour is. That stuff kind of happens I think in any community like that where, you know, something grabs you as the most important thing at that particular time, and you do not broaden your scope of vision to the other potential disasters and I think that sustainability is more of a big picture issue where a lot of factors come in and it is just something that is not a…not an emergency management issue.

One emergency manager offers a clue as to why sustainability is not a concept widely talked about among emergency management professionals.

> You know, that sustainability, honestly there…not really so much. I mean, you know, I…I belong to a number of different organizations and, you know, the focus I think tends to be on the 4 phases of emergency management and now with the federal government's push of PPD-8 with…kind of a…focus on also protection and prevention type things…that seems to be what…most of the conversation involves.

Perhaps an additional reason sustainability, while important, is not a priority is that they have limited resources and authority in their communities.

> … I can't do it. There's not enough people. If I had a department where I had a training director, a planning director, etc… that could be responsible for those kinds of things, we could do a better job. But you know, I have to rely on everybody else to help me do that job…that's another issue when we talk about sustainability.

> We have a responsibility to our citizens to be looking at these issues and keeping them on the forefront of the county government's consciousness and coordinating this, but there is only so much that we as a group can do.

Sustainability is just not the biggest concern out there right now for emergency managers. Emergency managers are focused on what has been traditionally their emphasis—those issues that have tangible day-to-day implications for their organizations such as, disasters, issues of the day such as homeland security, and the new directives the federal government is issuing related to Presidential Policy Directive Eight (PPD-8). In the next section, emergency management applications of sustainability are presented.

Applications

This section presents the findings pertaining to the study's second research question: what is the perceived applicability of sustainability to emergency management practice at the local level? This study found that emergency managers applied sustainability to their profession in a variety of broad and unspecific ways. In examining how they perceived sustainability to be applied, themes emerged around the phases of emergency management, planning, community engagement, and sustaining the profession. The ways in which county emergency managers applied the sustainability concept to these areas are reported here.

Phases

The interviewed county emergency managers all applied sustainability to the phases of emergency management in some way, but their applications were inconsistent across the North Dakota and Florida interviews. Some discussed sustainability explicitly, some implicitly, and some had to be prompted as to whether sustainability applied to the phases in any way. Though the emergency managers affirmed that sustainability applied to the four phases of tasks and activities associated with the disaster cycle, very few expressed any concrete applications of the term to either of the phases, "I think there are a lot of links between…between sustainability and…and what we do with mitigation". Most emergency managers either recognized it as a goal of a phase or identified a phase as more directly related to it.

The vast majority of respondents applied sustainability to 3 of the phases or less— 11 emergency managers applied sustainability to 2 of the phases, 6 emergency managers applied sustainability to one phase. In the total sample, only 4 perceived sustainability to be applicable to all 4 of the phases of emergency management.

Sustainability was most frequently associated among emergency managers —7 in North Dakota and 7 in Florida— to Preparedness or to tasks and activities normally attributed to the Preparedness phase, such as planning, community engagement and outreach. In addition, 13 respondents applied sustainability to the Mitigation phase or to tasks and activities attributed to Mitigation, with one emergency manager stating "…[the] concept of sustainability probably occurs more often in the hazard mitigation arena than any other part of emergency management". Interestingly, when contrasting the number of emergency managers associating sustainability with mitigation by state, a different picture emerges. The concept of sustainability is more strongly associated to mitigation in North Dakota than it is in Florida. In Florida, only 5 emergency managers mentioned mitigation in their discussions of sustainability, while more than half of the emergency managers interviewed in North Dakota associated them.

The Recovery phase, or the activities associated with disaster recovery, is the third most frequent phase to be associated with sustainability among the interviewed county emergency managers. Less than half of the emergency managers in North Dakota associated it with sustainability, while half of the participating emergency managers in Florida associated disaster recovery with sustainability. The least frequently associated phase with sustainability among county emergency managers is the Response phase, or the activities normally associated with disaster response. In both states, less than half of the emergency managers brought up response in their discussions of sustainability, 5 emergency managers in North Dakota and 5 emergency managers in Florida.

Although every responding emergency manager applied sustainability to at least one of the disaster phases, they did not do so in any specific way related to their day-to-day job. These disaster phases are whole categories of tasks and activities in which emergency managers are

involved as coordinators; however, they are not responsible for the completion of most of the tasks and activities that are undertaken within each phase. In reality, their roles as emergency managers relative to the phases of emergency management are limited. A multitude of players within the community are also involved in each one of those phases and carry out these phase-specific tasks.

> We need to all do what we can and down to the very least of us because no one entity, no one government is going to be able to do it all.
>
> It is a full community issue and so, you know, we are just a part of that piece, and a part of that entire pie, and you know we certainly have an input in there, and certainly have something that we can add to the discussion.
>
> So, sustainability really is a community function, not…not a couple individuals. If the community is not willing to step forward and help sustain our efforts, it…it is very difficult. It takes the whole community. There is no one that can drive that boat by themselves. All they can do is coordinate and hope for the best and hope the community responds because it is a community effort that is going to create sustainability and not just…not just an office or an individual.

Throughout their discussions of sustainability, emergency managers recognized the application of the concept of sustainability to the phases within the function of emergency management throughout society. Yet, they were not tying themselves or the phases to achieving sustainability at every step. The only places in which emergency managers seemed to apply sustainability to the job of an emergency manager specifically was with respect to planning, and to some extent, community engagement.

Planning

One of the only tasks that emergency managers described actually doing to bring sustainability about was planning.

> Your preparedness and your planning, that is really the main thing in sustainability that we are capable and should be doing.

> It is all the background planning that we do and networking and training exercise that help us to be sustainable.
>
> I think a lot of stuff we try to do as emergency managers is show people that, especially planning, preparing, it is something we push, which works right in with sustainability, you know…

Planning seems to be the only concrete task that is being undertaken by local level emergency managers to purposefully pursue sustainability as an end.

Some of the emergency managers credited their contributions to sustainability through planning to their ability to be "big picture thinkers" and emphasized their county-wide coordination roles, their knowledge of the community's hazards, and their responsibility to sensitize others to the potential consequences of disaster events and get them thinking about needed measures and factors to take into consideration when planning.

> I think that, you know, the emergency manager plays the vital link to making sure that the whole county succeeds with sustainability, because without it everybody would be so focused on their individual departmental goals or agency goals that they would not necessarily see the bigger picture where the emergency manager kind of oversees everything. The bigger picture of the entire county being the citizens, as well as the responders, of the whole county.
>
> It is understanding what is out there, what is available, where you can turn, what you can draw from, that for the average agency that just does their day-to-day thing, they are in their world doing their own tunnel vision, and they just do not have exposure or think about the big picture, and so that is what I think, you know, EM brings to the table...
>
> We are generalists. We look at the big picture. We take in all aspects of the community in our planning and our application of funds towards sustainability, and we rely on our subject matter experts in the different fields to focus on their piece of it. So, we…we are not subject matter experts. We are generalists that have a broad understanding of all of it and we are also kind of the cheerleaders that cheer everybody on and keep everybody engaged.

The participants pointed out that their limited, though important, role was due to them not being experts in sustainability. They urged the consideration of sustainability issues, but relied on each organization in the community to bring their expertise to bear.

Beyond their contributions as "big picture thinkers", most emergency managers associated planning with sustainability in general terms and did not refer to sustainability as being linked with the production of specific types of plans. Common types of plans associated with emergency management include recovery, response, mitigation, and continuity. Also common are plans developed to address specific disaster-related issues such as communications, special/functional needs, or evacuation. Yet, only five emergency managers mentioned continuity plans and only two mentioned recovery plans within their application of sustainability to planning.

Community Engagement

The vast majority of county emergency managers in this study suggested that their efforts related to community engagement were an application of the sustainability concept. Emergency managers cited participation in planning processes, involvement with community groups and agency projects, and the building of relationships with community partners as ways in which they develop and nurture sustainability in the community.

> The most important aspect to sustainability is back to people relations again If you do not have those people relations, you are not going to sustain anything. Your…people relations are a constant use of emergency manager's time, but if you do not have those relationships with various department heads and other organizations sustainability can never be achieved.
>
> Building a sustainable community, is making sure that you have this sustainable network that you can rely on not only day-to-day, but, you know, whenever you are faced with any kind of an emergency or disaster because it is knowing who to call and…and where to call them, and how to get a hold of them, and obviously time is of the essence, and so having all of the proper contacts, and having worked together on so many other things in the past it just makes it easier, you know, if you have built those kinds of relationships.
>
> …So, really they are partnerships and I know I have said that several times and it sounds very, you know, ethereal, and it could sound ethereal, but if…if you get the people in the room, and you show the, not just the importance, but if you show how it benefits not only the community, but them, to develop partnerships to be

> prepared for a disaster, and then listen to what they say, and help build the plan that meets…not just their needs, but communities' needs, their needs, everybody's needs, you are going to have…you are going to have an excellent sustainable community when faced with disaster.
>
> As I said before education, communications advances sustainability…the understanding of the need, the buy in. The building of desire to do it and the will, you know, advances sustainability. Getting buy in from the politicians down through the very last person on the street really. You talk about having everybody understand why it is important…

Managers know that a community that is engaged is more likely to be invested in the future of the community and to work together to achieve that projected future. Moreover, they realize that part of their jobs as emergency managers is to continue to develop those relationships and to connect community partners to each other. As previously discussed, emergency managers recognize that they do not have the power to achieve sustainability on their own, others have the resources and others accomplish the tasks. If emergency managers want to accomplish something, they need the buy-in of the community and its agencies.

Sustaining the Profession

One final, and specific, way that emergency managers applied the concept is to the sustainability of the emergency management profession—not something they did. Some of the interviewed managers expressed concern about the precariousness of emergency management positions within communities and questioned the future of the profession in the United States. In North Dakota, emergency managers spoke of their concerns as follows,

> It's difficult to sustain the profession in a state like North Dakota, sparsely populated and very rural…a couple of counties have an emergency manager in name only… those counties meet the bare minimum requirements that they have to have a plan…
>
> If there are no emergencies and I am not in the press once in a while, hopefully for the good, they are not going to need me. They will think why do they even have me? So, of course, you know, every emergency manager thinks of sustainability…they are just trying to stay alive.

These emergency managers recognized that although the law in their state mandates their position, the level of service provided across the state varied greatly with some of the positions being staffed part-time or just another hat worn by a county employee. Some emergency managers pointed out that their positions are at the will of their commissioners and that their duties were a reflection of the understanding of the commission as to what their job should entail. This left emergency managers caught between the state expectations of them, their county's expectations, and the limited resources that fund them. This concern was somewhat reflected in Florida.

> …When you talk about an organization like emergency management and being self-sustaining and sustainability, if we have our ability to control our destiny in terms of budget and in terms of the programs that we choose to…to put out there according to the needs in our community, if we…if we have the ability to avoid some of the political whimsical issues that come down the pike and do the things that we know are the true needs in our community, then the ability to be there for a longer period of time and successful becomes a greater reality I think.

There, emergency managers across the state are also observing cuts of emergency management positions at the city level and are themselves losing staffed positions in their departments.

> …We have 2 cities that cut the emergency managers out of their budget, and let their people go, and they are giving the responsibility, in 1 case they gave it to fire, and then fire could not handle it, and they said we are not getting any resources, so we are going to give it to law enforcement, so lord knows where it is now, but, you know, when you dual-hat or you triple-hat people with responsibilities, then the issue for the emergency manager is which hat are they going to wear when the balloon goes up?

When discussing sustainability, emergency managers often brought up the need to sustain both their programs and their organizations. Some emergency managers are seeing their already limited resources and funding diminish, affecting their ability to provide training, sustain certain programs like the Community Emergency Response Teams, and to support their offices in the manner needed to accomplish their duties.

> It is tough to do when you are in an environment like we are in local government where…we have seen our general fund diminish probably in every county in the state over the last several years for a myriad of reasons, and, you know, how viable is our organization and how…not just how viable it is, but how influential can it be if we are continuing to…to shrink that…

Although emergency managers indicated that they were concerned about the sustainability of their programs, expressing that it was becoming increasingly difficult to receive grants and funding, very few emergency managers were actually specific about what needed to be sustained and how.

> From FEMA down to the state level down they push for these programs, they push for these initiatives, and then they just quit funding them, and then it becomes my baby to keep going…and that is where lack of sustainability comes in, it is from unfunded mandates [laughter]. You will...you will put a digital radio in every vehicle. Really? Yeah. Well, we will give you 65% of it. Well, cool, so how am I going to get the other 40%?...The key to sustainability is do not do anything that you cannot support, period.

> Once you build your hazard mitigation plan, from a FEMA perspective it has to be sustained or it has to be actually revised every 5 years and it is a very expensive plan to have because, you know, the time involved to make it happen. So, the emergency managers commit probably more on hazard mitigation plans than any other particular part of emergency management that I can think of. Once the plan has been written and you most likely had a grant to help you write it, how do you sustain it? How do you keep it going?

A few emergency managers however had no qualms in expressing their frustrations with the demands imposed on them and the costs associated with those demands, such as those for the different types of mandated sheltering plans.

Conclusion

How county emergency managers conceptualize sustainability varies widely. As a group, they seem to conceptualize sustainability as broad and complex but to have no consensus as to how to define the concept. Despite a lack of definition, emergency managers recognized the importance of the concept to the profession and that it has an important role to play. They varied,

however, in the extent to which they thought the concept was actively being discussed or pursued within the context of the profession. When applying the concept, emergency managers were able to do so quickly and easily even if their applications tended to be categorical and nonspecific to what they do in their jobs as emergency manager (with the notable exceptions of planning and community engagement). The implications of these findings for the study and practice of emergency management are discussed in the next chapter.

CHAPTER FIVE: DISCUSSION

The Results Chapter sought to capture how emergency management professionals conceptualize sustainability at the local level and how they perceive its applicability to the practice of emergency management. In this chapter, the implications of these conceptualizations for emergency management in the United States are discussed in two sections. The first section discusses the implications of the definitional issues observed in this research. The second discusses the implications of the limited but significant ways that this study found emergency managers to be applying the concept in their everyday work life.

Definitional Issues

The researcher began this project hoping to find the answer to the question: what is sustainability to emergency management? Not having found a clear answer in the emergency management literature, she turned to the broader disaster literature and found no clear answer there either. The next logical step seemed to be to turn to emergency management professionals to solicit their views. Despite her hope to find a clear and concise answer, the researcher instead realized that there was no "one answer" to the question she posed. Emergency managers conceptualize sustainability differently across the counties and the states interviewed.

Problem of Definition

There is a problem of definitional clarity in the disaster literature when it comes to sustainability. Although it is widely discussed in the disaster literature, few definitions of sustainability exist, and they vary widely in their scope and the elements addressed within them. In fact, of the 121 articles/books/book chapters reviewed only 14 offered an explicit definition of sustainability (Ahern, 2011; Beatley, 1998; Burby, 1998; Celik & Corbacioglu, 2012; Dovers, 2004; Esnard, 2003; Geis & Kutzmark, 1995; Kahan, Allen, & George, 2009; King, 2010;

McEntire et al., 2002; Mileti, 1999; Schneider, 2002, 2004; Schwab, 2003). Additionally, there exists very little consensus around the few definitions that have been proposed by disaster scholars.

Just as clear conceptualizations of sustainability do not exist in the disaster literature, clarity as to its meaning did not appear to exist across the county emergency managers interviewed. Although recognizing the importance of sustainability and that the profession has a role related it, most emergency managers were unable to vocalize clearly what the concept meant to them. Instead, the emergency managers in this study demonstrated a wide variety of conceptualizations and no evidence of consensus regarding the term's meaning was found during data analysis. In fact, to the extent that themes related to meaning were discovered, it was found that they were often in contrast to one another (e.g., end-state vs. continual process, present vs. future orientation, maintenance/survival vs. improvement).

Sustainability according to these county emergency managers is complex and broad—so complex and broad that it was difficult for them to describe what it is or looks like in general, much less in an emergency management context specifically. Emergency managers struggled to define the concept in interviews and asked for additional guidance from the researcher as to how to discuss the concept. Their discussions of the concept were both rambling and lurching, characterized by pauses and several starts-and-stops. As they continued their attempts to answer the researcher's questions, the best they could do was to talk about the concept and suggest some elements associated with its meaning over the course of the discussion as opposed to directly answering the questions posed with succinct clear answers.

From the few definitions of sustainability that were found in the disaster literature, the following elements were included at least one time: resource use, long-term safety, long-term

survival, meeting community needs, maintaining quality of life, continuing, resilience, and post-disaster reconstruction planning (Ahern, 2011; Beatley, 1998; Burby, 1998; Celik & Corbacioglu, 2012; Dovers, 2004; Esnard, 2003; Geis & Kutzmark, 1995; Kahan, Allen, & George, 2009; King, 2010; McEntire et al., 2002; Mileti, 1999; Schneider, 2002, 2004; Schwab, 2003). It is interesting to note that more than one county emergency manager associated sustainability with one or more of these elements at some point within their discussion of the concept. In fact, some of these elements (i.e., time, survival versus improvement, and planning) emerged as themes among the county emergency managers' conceptualizations of sustainability. However, despite the fact that the elements found in the handful of definitions encountered in the literature also appeared as subthemes related to county emergency manager conceptualizations of sustainability, no consensus was found around the inclusion of these elements in all, or even a majority, of emergency manager conceptualizations. The broad and complex nature of the concept to emergency managers seems to be an important, if, perhaps, only partial, explanation of their inability to define what it meant to them.

One of the factors contributing to the lack of clarity in the disaster literature concerning sustainability is the propensity of disaster scholars to associate sustainability with other terms such as "resilience" and "sustainable development," at times even using these other terms interchangeably in their work (see for example: Britton, 2001; Manock, 2003; Oviatt & Brett, 2010; Schwab & Bower, 1999; Shrubsole, 2007). Similarly, county emergency managers were also found to frequently associate sustainability with other terms including resilience, continuity, and resistance, among others. Nevertheless, the interviews with emergency managers did clarify an important point about sustainability in an emergency management context that the disaster literature did not.

The point of clarification is that within the emergency management context, sustainability is not sustainable development. As discussed previously, in the disaster literature sustainability is often associated, and used interchangeably with the concept of sustainable development (see for example: Britton, 2001; Manock, 2003; Mileti, 1999; Oviatt & Brett, 2010; Schwab & Bower, 1999; Shrubsole, 2007). Among the interviewed emergency managers, sustainability as sustainable development is not an apparent theme. Although a couple of emergency managers brought up community development in their sustainability discussions, the overwhelming majority of those interviewed made no association between sustainability and sustainable development; and, consequently, there was no connection between sustainable development and the profession of emergency management made by these managers. While they, like the disaster literature, used sustainability interchangeably with other terms, the terms emergency managers used were not the same. Thus, even as no conclusions as to what sustainability actually means in an emergency management context can be made due to the lack of clarity among those interviewed and the variety of terms used in lieu of sustainability, it does appear that one thing sustainability *is not* has been determined through this research.

Additionally, just as Mileti's (1999) largely ignored definition of sustainability associated the concept with resilience, resistance, and self-reliance, county emergency managers interviewed in this study also often associated sustainability with one or more of these concepts. Perhaps the managers' use of those three words interchangeably with sustainability and the tendency of some to even use one or more of these concepts to completely replace sustainability within their discussion, is indicative of something beyond a lack of clarity as to what sustainability means. Perhaps sustainability is more than just highly similar to the concepts of resilience, resistance, and continuity to these emergency managers. Perhaps these concepts are

dimensions of sustainability in an emergency management context; and, as community resilience, resistance, and/or continuity are pursued/achieved maybe progress is being made toward sustainability. Emergency managers seemed more comfortable with these concepts and to have a clearer sense of what they each meant and how they applied to their positions. Additional research will need to be conducted to determine if, and to what extent, this observation is reality. Regardless, the reality at the end of data analysis is that the researcher was unable to define what sustainability means in an emergency management context.

According to Mileti (1999), the lack of a definition for sustainability is not problematic in the disaster context, but the disaster context at-large is not the same as the profession of emergency management. It is an open question whether it is a problem that emergency management does not have a clearly articulated definition for the concept. If emergency managers think the concept important and accept a role in its achievement in their communities, then it would be rational to think a definition would be important. If emergency managers do not care about sustainability and accept no role related to bringing about the concept in their communities, then a lack of definition would not seem to hamper the profession. At first glance, the results of this study would seem to suggest the former (i.e., emergency management needs a clear definition); yet, further discussion is warranted before this conclusion is drawn from the results of this study.

To conclude from this study that emergency management needs a definition of sustainability is to assume that a definition is necessary to see the concept consistently and concretely applied and implemented in the working life of emergency managers now and into the future. It is logical for one to wonder, "Without a definition, how is sustainability to be pursued by emergency managers? How will they know when they have done their job related to the

concept? How will sustainability-related responsibilities of the job be communicated to others?" It would appear that the existence of an explicit definition within the profession would be evidence of its shared understanding of the concept and its role related to it.

Yet, analyzing emergency manager conceptualizations of sustainability, it is evident that a number of the interviewed emergency managers see sustainability in a similar way without having a well-articulated or commonly held definition. While only a few emergency managers explicitly stated that sustainability is more of a general philosophy, goal, or professional orientation than a concept that can be or must be defined or implemented in an explicit regimented fashion within the field, this description seems to fit what was observed during the analysis of the data gathered. Despite their problems defining the term, data analysis suggests that emergency managers saw sustainability as an all-encompassing concept within the profession. For them, emergency management is the road to sustainability, everything undertaken within an emergency management framework is in its pursuit, and all successes associated with emergency management are those that make communities more sustainable in a general sense. If one accepts that despite not having a definition, emergency managers seem to have a general sense of sustainability and believe they are implementing it all the time, then it would seem that the concept of sustainability is more of a professional value or professional orientation/philosophy than a concept for which a clear definition is needed to have meaning and application in the profession.

This finding is consistent with Mileti's observation of the disaster literature when he suggested that sustainability as currently conceived in the literature is more of a philosophical perspective than scientific concept (Mileti, 1999). This finding would also seem to be consistent with how the real world and the people in it operate on a day-to-day basis. There are a variety of

concepts that give structure to who we are, to what we do, and to how we see the world without having concrete definitions. Concepts such as mother, family, home, and community are, after all, concepts that we all have an understanding of and that shape our perspectives without being universally defined as the same thing.

And, in the emergency management world, concepts such as vulnerability, risk, emergency, and disaster orient the profession and ground the academic discipline without being clearly defined, much less in a way that is backed by consensus (Jensen, 2009). There is no question that these concepts have relevance within the profession. They are referred to constantly in government documents, plans, practitioner writings, and even casual practitioner conversations. Emergency managers also take action with respect to these concepts in countless explicit and implicit ways in the course of their jobs. Yet, there is an important difference with respect to these concepts versus the sustainability concept. These concepts are not values; they are grounding, sensitizing concepts (Blumer, 1954,) around which the profession and discipline of emergency management has evolved. If sustainability is to be considered a professional value or philosophical orientation for this field, then it must be formally acknowledged and integrated into emergency management practice and education through the field's existing principles (i.e., the *Principles of Emergency Management (2007)*) and a professional code of ethics (which the profession does not, as of yet, have).

Applications of Sustainability in the Profession of Emergency Management

The lack of a shared definition of sustainability within the disaster context did not stop disaster scholars from applying the concept and applying it in similar ways. The sustainability concept was applied to mitigation in the form of suggested legal, regulatory, structural, and nonstructural strategies (see for example: Beatley, 1994, 1998; Bender, 1993; Burby, 1998;

Godschalk et al., 1999; Mileti, 1999; Lindsay, 2003; Mandarano, 2010; Mitchell, 1995; Munnasinghe & Clarke, 1994; Pearce, 2003; Salkin, 2008; Schwab & Brower, 1999, 2008; Smith, 2009). Sustainability was also applied to disaster recovery in the form of concepts ranging from reconstruction and aid delivery to historical and cultural preservation (see for example: Al-Nammari, 2006; Becker, 1993; Becker and Sauffer, 1994; Becker & Saunders, 2007; Berke, Kartez, & Wenger, 1993; Garnett & Moore, 2010; Mileti, 1999; NHC, 2001; Rosowsky, 2011; Rozdilsky, 2001; Shaw, Gupta, & Sarma, 2003; Smith & Wenger, 2007).

Similarly, the lack of clear conceptualizations or consensus among emergency management professionals as to what sustainability means did not stop them from applying the concept either. In fact, as interview discussions turned to applications of sustainability, emergency managers were able to speak easily to the topic—in stark contrast to their difficulties when asked to define the concept. Where as they struggled to voice a definition for sustainability, they were able to comfortably talk at length as to how the concept applies in a disaster context. However, while easier for emergency managers to discuss, it was often unclear how emergency managers actually fit into the applications of the concept they described.

Although it was clear they were applying the concept of sustainability in the disaster context, it was initially hard to discern how the applications they discussed fit within the profession. The literature reviewed for this study presented a plethora of applications of sustainability, mostly concentrated in the mitigation and recovery disaster literature (see Table 2 on page 15 & Table 3 on page 17). Among those interviewed, a wide variety of these same applications were also mentioned by one or more managers (e.g., the delivery of aid, reducing socio-economic vulnerabilities of individuals and households). Yet, emergency managers do not,

and did not suggest in interviews that they do, all, or any, of these activities in the course of their jobs.

The responding emergency managers also applied sustainability to the disaster phases (e.g., preparedness, response, recovery, mitigation). These phases are each in and of themselves entire categories of tasks and activities; and, these categories include tasks and activities that emergency managers do not "do" but rather coordinate. In their application of sustainability to the phases, emergency managers did not attribute sustainability to anything specific that they, as emergency managers, are responsible for within the purview of their jobs.

It is often overlooked that emergency management is not solely an emerging academic discipline and profession. It is also a function distributed throughout the community (Canton, 2007). The tasks and activities related to emergency management are carried out among the departments, organizations, and residents that make up the community. For example, preparedness is not achieved when an emergency manager prepares an exercise, but when the departments and organizations within a community carry out the exercise, review what went right and what went wrong, and work to correct any deficiencies they identified. Moreover, preparedness is not achieved when an emergency manager distributes information about hazards and how to get ready for them to individuals and households but when the individuals and households review the information and act on what they have read. Emergency managers are merely coordinators of those tasks, activities, and groups (FEMA, 2007).

Emergency managers are just one of the many players involved in the community's management of hazards, vulnerabilities, and the associated events. Through their own sustainability discourses, the emergency managers interviewed in this study provided further evidence of emergency management being a distributed function and of sustainability also being

a distributed function. They did so in the ways in which they applied sustainability in the disaster context in broad sweeping terms as opposed to things they do; and, they did so in how they spoke of responsibility for achieving sustainability.

Emergency managers generally did not accept sole responsibility for bringing about sustainability in their communities. They recognized that just as emergency management is a communal function beyond the job of the emergency manager, so is sustainability. Emergency managers repeatedly described sustainability as achieved only through the actions of every member of the community from individuals to organizations. As with the distributed function that is emergency management, everyone has a role to play in the distributed function that is sustainability.

There is no doubt that the emergency managers in this study saw sustainability as an integral part of emergency management. Yet, at first glance, they seemed to apply it primarily to the distributed function as opposed to anything that they actually do in the course of their jobs. The only tasks frequently and specifically reported by those interviewed, as actually being done to support efforts to bring about sustainability in their communities, were community engagement and planning. The notion that emergency managers are only involved in two tasks to bring about sustainability might be taken to imply that emergency managers are actually only involved in sustainability efforts in a minimal way regardless of sustainability being a professional orientation or value. Yet, a closer look at these two tasks within the context of the profession, what the tasks are, what they involve, and how they relate to sustainability demonstrates that, while few in number, these tasks have the potential to significantly impact how and to what extent communities pursue sustainability.

One of the core responsibilities of emergency managers is to identify the individuals and groups that are critical to the distributed function of emergency management, build relationships with them, engage them in emergency management tasks and activities, introduce them to others within the community they need to know or work with to accomplish those tasks and activities, and help them build those relationships. Emergency managers in this study recognized this responsibility as one associated with their position and related it to the sustainability of their communities. Fostering relationships between the individuals and organizations in the community has the potential of contributing to the sustainability of the community by creating linkages that allow it to work collaboratively toward the achievement of the shared vision and goals that they as a group decide are worthy to pursue through the planning process. Better relationships lead not only to more collaboration and support among agencies and individuals, but also contribute to the success of planning efforts, of the community's disaster preparedness and response, and to its mitigation and recovery processes (Brody, 2003; Kartez & Lindell, 1987; Pearce, 2003). Thus, a task that emergency managers identified as theirs has the potential to positively influence sustainability outcomes. These findings are similar with respect to the other task to which emergency managers applied the term—planning.

The task of planning for government response to a domestic or nuclear attack and the need for individuals devoted to the task provided the impetus for the development of the emergency management profession in the 1960s (Rubin, 2009). Thus, since emergency management began to formalize, planning has been an integral part of the job of an emergency manager. The intent behind planning in emergency management is for communities to develop a vision of what a community wants to look like with respect to a given issue area, identify what must be done to achieve that vision, who must be involved, what they must do, and the resources

that will be required through a process that involves the whole community, respects everyone's input, and is based on consensus decision making.

Today, county emergency managers are involved in the development of one or more types of plans with some regularity including response, mitigation, recovery, and continuity of government/operations plans. As previously noted, the interviewed emergency managers consistently tied sustainability to whole phases (i.e., response, mitigation, recovery, and preparedness), or categories of tasks and activities, the execution of which they are not responsible for within the scope of their jobs. Yet, it appears from the data, that despite not linking sustainability to any particular type of plan, emergency managers are intimately linked to whether and to what extent communities pursue and achieve sustainability through facilitating the planning process and plan development for these phases and all of the tasks and activities within them.

It is through the planning process that a community determines whether part of its vision related to the type of plan being developed includes pursuit of sustainability. It is through the planning process that the various individuals and groups discuss not just what can be done to pursue that vision but their role in it. It is through the planning process that the individuals and groups commit individually and as a collective to bringing about the vision they lay out and the steps they have agreed upon for getting there (e.g., roles, resources, responsibilities in terms of tasks, activities, projects, etc.). As the facilitators of the planning process and the development of the plan itself, the emergency manager has innumerable opportunities to influence the sustainability of their community. While planning is only one task associated with the position of an emergency manager, it has the potential to be a critical one when it comes to\ sustainability.

Moving the Profession Forward

A logical question to posit at the end of this analysis is where do we go from here? In light of the previous discussion, the answer is that it depends on what the profession wants for itself. If the profession concludes that there is a need for a concrete definition of sustainability, then there is a lot of work to be done. And, given the developing nature of the field, the time to undertake the development of such a definition is now as it stands to have an impact on how the profession continues to evolve. As the field moves forward, more training and more certifications are being developed. Not only are they being developed but they are also evolving rapidly, constantly changing to reflect the new realities that are facing emergency managers. Terms such as sustainability, disaster, and resilience ought not to continue to be bandied about as important in the profession but remain unclear in the practice of it.

The profession must better identify the links between these concepts and the roles that it defines for itself related to them. Should the development and dispersal of an explicit definition be achieved within the profession, it is reasonable to believe that it will result in providing current and future emergency management professionals with a shared understanding of what sustainability is and how emergency management professionals go about bringing it to their communities. Yet, just who will develop the definition and ensure its dispersal throughout the profession is uncertain.

Based on the interview data, is seems important that efforts to change the profession be instigated by professionals—not led by outsiders or forced on the profession by government. Professional associations, such as the International Association of Emergency Managers (IAEM), have been involved in the development of the profession through projects like the *Principles of Emergency Management* (FEMA, 2007) that provided emergency management its

definition as a practice and identified the characteristics that professionals seek to bring about within their organizations and communities. Yet, organizations, like IAEM, have not been engaged in any discussions related to defining sustainability and the role of emergency management professionals *vis a vis* its pursuit. If IAEM is not interested (at least at this time) in taking on this task, then who or what organization would, will be important to identify. In fact, identifying just who, or what entity, will be in charge of this important work will be a critical step to undertake before any sort of formal decision regarding the profession and what it does next can be made, including the options raised in the following paragraphs.

On the other hand, the profession may decide that it will positively affirm the status quo *vis a vis* a sustainability definition and the profession's current role. It could choose to formally embrace sustainability as a general orientation of the profession or a professional value and leave it an undefined but nevertheless sensitizing concept (Blumer, 1954). Should this latter option be chosen, and the evidence from this small study seems to suggest it will, then there is still work to be done. First, the profession will need to take the formal step of claiming the concept for the sake of current, and, more importantly, future professionals in the field. Second, if its current role of community engagement and planning with respect to sustainability is to be the extent of the profession's involvement in sustainability, then that too needs to be said and the link between the general orientation of the field and these two tasks made. These are minimum steps that would need to be taken.

There remains much that could be done beyond the bare minimum to support the profession's current role with respect to sustainability. For instance, since community engagement is a core responsibility associated with the position of being an emergency manager, and, also, according to this study, closely associated with sustainability, more could be done to

support the efforts of professionals to engage their communities. Individuals can be blessed with exceptional collaboration and relationship building skills, but many are not (McGuire, 2009). By increasing the training on collaboration and relationship building available to emergency managers, general professionalism in the field could be positively impacted, as could the field's potential to influence sustainability.

Opportunities to improve emergency managers skills related to planning also exist and stand to support the profession's ability to bring about sustainability in their communities. The quality of plans is inextricably linked to the quality of the process that leads to their creation (Perry & Lindell, 2006). Thus, emergency managers need to be aware of political savvy (Brooks, 2002), vision (Brooks, 2002), ethics (Forester, 2001), and legal issues (Nicholson, 2007) as relates to the planning process and how they, as professionals, fit in. It is also important to be knowledgeable about the components of a quality planning process such as participation (Burby, 2003; Evans-Cowley & Gough, 2008; Godschalk, Brody, & Burby, 2003), techniques for getting information to and from stakeholders (Creighton, 2005), designing, developing, and facilitating planning meetings (Creighton, 2005) in addition to other aspects of plan quality (Berke & Godschalk, 2009; Laurian et al., 2004; Perry & Lindell, 2006). Because planning is day-to-day a significant part of an emergency manager's job and has such a powerful potential to influence sustainability outcomes, training to support emergency manager efforts in this regard could be pursued.

Implications for Higher Education

Ultimately how sustainability is to be defined (or not) will also impact the steps that we take forward as a discipline particularly with respect to educating students. Should the status quo remain and no formal definition or role for emergency management professionals be adopted,

then students should be informed from the outset of their education that sustainability is not universally defined, that no definition currently exists within emergency management, but that the concept seems to have resonance with practitioners as a general orientation to the profession or professional value. Students should also be sensitized as to the distinctions between how the disaster literature applies the sustainability concept and the way in which local government emergency managers apply it in the profession.

Of course, emergency management higher education does not only teach local government emergency management professionals. It contributes to the formation of future private sector, nonprofit, academic, and policy-making professionals. And, it contributes to the education of students who will go out to pursue careers in the distributed function of emergency management (e.g., as elected officials, police officers, hospital employees, etc.). Emergency management higher education has the opportunity to challenge students to consider sustainability as a general orientation and their potential role within it wherever they end up in the profession or distributed function.

The lack of an explicit definition of emergency management has not stopped local government emergency managers from applying the term to core responsibilities (i.e., community engagement and planning) associated with the position. Given that these two tasks are key to being a successful emergency manager day-to-day and, perhaps, also to bringing about sustainability, students in emergency management programs should be educated in planning science as well as issues and skills related to collaboration (e.g. leadership, power, advocacy, and influence) and how sustainability as a concept links to both.

Professional Sustainment

Some of the interviewed county emergency managers also applied sustainability to their profession directly, expressing a growing concern over the future of emergency management in communities across the United States. These emergency managers questioned how emergency management can continue to serve communities where they are hindered by factors such as the lack of understanding of their roles in their communities, increasingly diminishing funding, and positioning in organizations that prevent them from accomplishing their missions without clashing with those that on a day-to-day basis have power over them.

A few emergency managers reported having to educate their commissioners and elected officials as to what the emergency manager's role is in the community and what role the elected officials would have to fulfill during emergencies and disasters in the community. However, there seemed to be little to no discussion among the interviewed emergency managers of the ways in which they planned to counter those concerns as a profession. Only a few emergency managers discussed the need for emergency management to keep the organization relevant in communities and demonstrate the need for emergency management in a community and the value it brings to the community.

The past couple of years have reminded the nation that disaster events are not isolated to particular regions of the United States. And, as emergency management continues to be overlooked, the magnitudes of these disaster events and their associated damages have dramatically increased. The question that remains to be answered is will the emergency management community be able to capitalize on these events to further showcase its worth? Emergency managers frequently reminded the researcher that during quiet times they are overlooked and their importance is not recognized. With the series of extreme events rocking all

parts of the nation, how will emergency managers and the emergency management profession react?

According to Birkland (1997, 2004) a "window of opportunity" exists after focusing events for legislation and policy changes regarding disaster events to be enacted. Given the recent disasters (2011-2012) that have swept the nation, now would normally be the time when emergency management specific legislation should be revisited, i.e., while this "window" is still open. A time for emergency management professionals to present a strong voice while the attention is still on these events and the reminders of their devastating effects are still around to be felt, an opportunity for those dissatisfied with current processes, burdensome mandates, and other challenges to emergency management activities to come together and propose necessary changes for the betterment of the system. However, the reality is that with the current economic downturn, the political climate is oriented towards budget cuts and services reduction (Bennett, 2013; *Emergency Management*, 2013; Mervis, 2013; Tiron, Rowley, & Przybyla, 2013). Policy initiatives that would require more funding and ongoing political commitment will be even more difficult to find support for, particularly for a field that is still fragmented (Cwiak, 2009).

Emergency management has the opportunity, despite the limited window and challenging climate that exists, to garner support for these changes. However, the question of who will instigate and provide leadership for these changes remains. As discussed previously, it might seem intuitive to turn to the dominant professional association, IAEM, who has previously been involved in work leading the professionalization of the field. Yet, IAEM, as discussed, has not provided leadership to addressing the issues related to the core concepts and professional code of the field; and, there is no reason to believe that they will provide the leadership on this either.

Thus, one must wonder who will the profession turn to for advocacy on the issues raised in this study.

Conclusion

This study qualitatively explored how sustainability is conceptualized and perceived to be applicable at the local level. By interviewing county emergency managers in the states of Florida and North Dakota, it became clear that the lack of definitional clarity evidenced in the disaster literature was also reflected in emergency management conceptualizations of sustainability. This study however was able to identify themes in the interviewed managers' conceptualizations of sustainability, to offer meaningful contextual factors influencing these conceptualizations, and to discuss the challenges that will be faced in any future development of a definition of sustainability within the profession of emergency management.

The implications of these findings for the development of the profession and discipline of emergency management were also discussed in this chapter. Moving forward the profession of emergency management as a whole will need to decide whether a definition of sustainability is necessary or not to its development and to how it continues to be implemented in practice. Emergency management has the opportunity to further define its role in the sustainability arena and how it does so will have implications for the communities it serves, the professionals that will be tasked with it, and the educators that will be responsible for the formation of future generations of emergency management professionals.

CHAPTER SIX: CONCLUSION

This study has significantly contributed to the development of both the discipline and the practice of emergency management. It has added to the body of literature on sustainability by examining the role of the concept within the emergency management context and the perceived applicability of the term in practice at the local level. It informs the discipline and practice of the profession by inventorying the current definitions and applications of the concept found in the disaster literature and also in practice; thus, it begins to answer the question of what sustainability is, could, and should be for emergency management.

This study's analysis of the data examined the options facing the profession of emergency in the future. It outlines clear paths for whichever decision is made by the profession of emergency management as a whole with respect to the value associated with the sustainability concept. Whether emergency management professionals choose to affirm the status quo and embrace sustainability as a professional value or demand that a concrete definition be recognized, shared understanding as to the role of the term in the profession will have to be established so as to sensitize current and future emergency managers to the expectations the field has for them with respect to sustainability.

This research also has significance for the development of emergency management policy. As Presidential Policy Directive 8 goes about shaping the way emergency management in the United States will be conducted in the future, new guidance is expected for the implementation of sustainable practices at the local level. It is hoped that these practices will emerge from collaboration between the profession of emergency management and emergency management academia, and reflect local perceptions and realities associated with implementing the concept. This study has clearly illustrated the differences that exist in sustainability

conceptualizations among emergency managers. Before emergency management policy regarding sustainability can be implemented nationally, the concept should be defined or acknowledged to have shared and different meanings across the nation. Consensus should be reached as to what is meant by sustainability, as this will impact policy for generations to come. Additionally, the guidance that will be put forth should address the specific roles that emergency management will play with regards to sustainability.

Finally, this study has provided a model for developing an emergency management-focused qualitative study that future researchers in emergency management could utilize in the examination of conceptualizations of sustainability at all levels and across sectors. This study only begins to address the gap in the sustainability literature in regards to emergency management; thus, further research will be needed to explore the link between sustainability and emergency management. The issue of what sustainability means within the profession of emergency management has not been fully addressed in this research as it has only focused in a limited fashion on sustainability within the practice of emergency management at the local level in the United States. However emergency management is not only practiced at the local level, it is practiced at the city, state, and federal levels as well. Emergency management is also practiced differently on the international scale and in different countries. What sustainability is in this part of the world may be different in another, just as its value here may differ from that of others around the globe. To fully understand what sustainability means in emergency management in the United States, the topic must also be investigated at those levels. Future research on this topic will need to expand in sample size and explore regional differences in perceptions of sustainability as it grows to encompass the entire United States and its protectorates. Researchers should also investigate the relationships between education, professional background, and years

of emergency management experience with sustainability conceptualizations. Although no significant relationships were discovered in this study, the researcher suspects that patterns in conceptualizations will emerge in a wider sample.

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APPENDIX A: INTERVIEW INVITATION LETTER

NOTE: THIS INTIVATION WILL BE SENT BY EMAIL. IT WILL LOOK AS FOLLOWS.

North Dakota State University
Center for Disaster Studies and Emergency Management
Dept. 2351
P.O. Box 6050
Fargo, ND 58108-6050

6 February 2012,

Dear [Potential Participant Name],

I am writing to request your participation in a study about the role of emergency managers in the communities they serve. I am eager to learn from your experience and hear your thoughts on what the job of an emergency manager entails.

If you would be willing to participate in this study, please contact me: Regine Laurence Chauvet via email at rl.chauvet@my.ndsu.edu or by phone at (954) 610-8156 to schedule a time and a location that would be convenient for you to sit down with me for an interview, or alternatively for a phone interview should that be more convenient. The interview should take approximately one hour.

Please take a look at the attached document with information about the project. Afterwards, should you have any questions, feel free to contact me or Dr. Jessica Jensen at (701) 231-5762 or ja.jensen@ndsu.edu, who is also assisting with this project.

Thank you in advance for your participation in this research project.

Sincerely,

Regine Laurence Chauvet

APPENDIX B: INFORMATION SHEET

NDSU

North Dakota State University
Department of Emergency Management
Center for Disaster Studies and Emergency Management
Department 2351
P.O. Box 6050
Fargo, ND 58108-6050
(701) 231-5595

"The Job of the Emergency Manager: Theory and Practice"
INFORMATION SHEET

Research Study.
You are being invited to participate in a research project entitled "The Job of the Emergency Manager: Theory and Practice". This study is being conducted by Regine Laurence Chauvet from North Dakota State University, Department of Emergency Management.

Purpose of Study.
The purpose of this research is to explore how county emergency managers conceptualize their jobs and the perceived relevance of concepts commonly used in the disaster literature.

Basis for Participant Selection.
You are being invited to participate in this research project because of your role as county emergency manager in Florida or North Dakota.

Explanation of Procedures:
Should you choose to participate, we will arrange a time of your choice between June 1, 2012 and July 31, 2012 for an interview. The interview will take approximately one hour unless you have more time and information to share.

The interviews will be conducted in person at a time and place convenient for you, or should you prefer over the telephone, and will be recorded using a digital recorder to assure that I accurately use the information you provide.

Potential Risks and Discomforts.
There should be no potential discomfort or physical, social, psychological, legal, or economic risk to you due to your participation in this study.

Potential Benefits.
There exists a vast amount of disaster literature, and a substantial amount of writings suggesting that various concepts should be applied within the emergency management context. Yet, little to no research exists on how emergency managers at the local level can, should, or do go about implementing these concepts within their worklives. Emergency management as an academic discipline and profession stands to benefit from a better understanding of these concepts and their application. This research intends to address, at least partially, this gap in knowledge.

NDSU

North Dakota State University
Department of Emergency Management
Center for Disaster Studies and Emergency Management
Department 2351
P.O. Box 6050
Fargo, ND 58108-6050
(701) 231-5595

Your participation in this project will increase the information available to educate students and faculty in emergency management higher education programs as well as policy makers on the realities associated with transitioning theory to practice.

Assurance of Confidentiality.
While we cannot guarantee your confidentiality, there are several considerations which will be given to those who participate. What is shared by a participant in an interview will not be shared with any other interview participants. In the final research write-up no names of individuals, their job titles, or county names will be attached to any quotations used.

The interviews will be digitally recorded. Digitally recorded interviews will be uploaded on to the interviewer's personal computer. The sound file will then be transcribed and codes assigned for identifying personal and geographical characteristics. I will be the only person in possession of the paper listing the codes and their link to participant information. Once the recordings, transcriptions and codes are no longer relevant to my research they will be destroyed.

In the interview transcriptions, field notes, and the final product, codes rather than identifying characteristics (personal or geographic) will be used. Your personal information will be kept confidential. Your name and your jurisdiction will not be used in any reports. Aliases will be substituted instead (i.e. Joe Smith in County A)

Voluntary Participation and Withdrawal from the Study.
Your participation is voluntary and you may quit at any time. Your decision whether or not to participate will not affect your present or future relationship with North Dakota State University or any other benefits to which you are otherwise entitled. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time.

Offer to Answer Questions.
You should feel free to ask questions now or at any time. If you have any questions, you can contact me, Regine Laurence Chauvet, at (954) 610-8156 or reginelaurence.chauvet@my.ndsu.edu or my thesis advisor, Dr. Jessica Jensen, at (701) 231-5762 or ja.jensen@ndsu.edu. If you have any questions about the rights of human research participants, or wish to report a research-related problem, contact the NDSU Institutional Research Board (IRB) Office at (701) 231-8908 or by email at ndsu.irb@ndsu.edu.

APPENDIX C: INTERVIEW GUIDE

Sustainability and the Emergency Manager: Do they Mesh?

Interview Guide

Introduction Script: *Before we begin, I wanted to make sure that you are comfortable with a few things related to this project. Are you comfortable with the fact that you have been selected for participation in this research due to your role as county emergency manager; that your participation in this project is voluntary; that you can let me know if you want to stop participating anytime; that while your confidentiality is not guaranteed, we will not use your name or your county's name in the final write-up of the data collected for this research; and, that our conversation is going to be digitally recorded? Do you have any questions before we begin?*

1. Tell me about your experience in emergency management.

   Information Sought:
   - Description of background, education, and emergency management experience, including number of years in the field; description of current position, including full-time or part-time position and if emergency management position is in addition to other positions
   - Description of jurisdiction including demographics, types of hazards faced, community relationships, the priority of emergency management in the community; disaster experienced, involvement at various stages of these disasters, perceptions of how things went at these various stages

2. What does your job as an emergency manager entail?

   Information Sought:
   - Description of roles and responsibilities of an emergency manager; tasks and activities associated with emergency management; understanding of factors that impact ability to carry out the job

3. What does the concept of sustainability mean to you?

   Information Sought:
   - Description of sustainability; description of sustainability within the context of their job as emergency managers (if unique); description of current application of sustainability within the communities they serve; description of current application of sustainability in their jobs; what serves to advance or hinder sustainability in their jobs/communities

County:	State:	Date:
Gender:	Community Type:	Start Time:
Education:	Background:	End Time:
Experience:	Position:	EM Association:

APPENDIX D: INSTITUTIONAL REVIEW BOARD APPROVAL

NDSU NORTH DAKOTA STATE UNIVERSITY

Institutional Review Board
Office of the Vice President for Research, Creative Activities and Technology Transfer
NDSU Dept. 4000
1735 NDSU Research Park Drive
Research 1, P.O. Box 6050
Fargo, ND 58108-6050

701.231.8995
Fax 701.231.8098
Federalwide Assurance #FWA00002439

IRB Certification of Exempt Human Research Project **February 21, 2012**

Protocol **#HS12139**
"Sustainability and the Emergency Manager: Do they Mesh?"

Jessica Jensen
Dept. of Emergency Management, 102 D Putnam

Co-investigator(s) and research team: **Regine Laurence Chauvet**

Study site(s): **NDSU** Funding: **n/a**

It has been determined that this human subjects research project qualifies for exempt status (category # 2b) in accordance with federal regulations (Code of Federal Regulations, Title 45, Part 46, *Protection of Human Subjects*). This determination is based on the original protocol application received 2/9/2012.

Please also note the following:

- This determination of exemption expires 3 years from this date. If you wish to continue the research after 2/20/2015, the IRB must re-certify the protocol prior to this date.
- The project must be conducted as described in the approved protocol. If you wish to make changes, pre-approval is to be obtained from the IRB, unless the changes are necessary to eliminate an apparent immediate hazard to subjects. A *Protocol Amendment Request Form* is available on the IRB website.
- Prompt, written notification must be made to the IRB of any adverse events, complaints, or unanticipated problems involving risks to subjects or others related to this project.
- Any significant new findings that may affect the risks and benefits to participation will be reported in writing to the participants and the IRB.
- Research records may be subject to a random or directed audit at any time to verify compliance with IRB policies.

Thank you for complying with NDSU IRB procedures; best wishes for success with your project.

Sincerely,

Teryl Grosz, MS, CIP
Manager, Human Research Protections Program

APPENDIX E: INSTITUTIONAL REVIEW BOARD AMENDMENT APPROVAL

Institutional Review Board …for the protection of human participants in research

North Dakota State University
Sponsored Programs Administration
1735 NDSU Research Park Drive
NDSU Dept #4000
PO Box 6050
Fargo, ND 58108-6050 231-8995(ph) 231-8098(fax)

Protocol Amendment Request Form

Changes to approved research may not be initiated without prior IRB review and approval, except where necessary to eliminate apparent immediate hazards to participants. Reference: SOP 7.5 Protocol Amendments.

Examples of changes requiring IRB review include, but are not limited to changes in: investigators or research team members, purpose/scope of research, recruitment procedures, compensation scheme, participant population, research setting, interventions involving participants, data collection procedures, or surveys, measures or other data forms.

Protocol Information:

Protocol #: **HS12139** Title: **Sustainability and the Emergency Manager: Do they Mesh?**

Review category: ☒ Exempt ☐ Expedited ☐ Full board

Principal investigator: **Jessica Jensen, Ph.D.** Email address: **ja.jensen@ndsu.edu**
Dept: **Emergency Management**

Co-investigator: **Regine Laurence Chauvet** Email address: **rl.chauvet@my.ndsu.edu**
Dept: **Emergnecy Management**

Principal investigator signature, Date: Jessica Jensen via email 6/1/12

In lieu of a written signature, submission via the Principal Investigator's NDSU email constitutes an acceptable electronic signature.

Description of proposed changes:

1. Date of proposed implementation of change(s)*: **June 1, 2012**
   ** Cannot be implemented prior to IRB approval unless the IRB Chair has determined that the change is necessary to eliminate apparent immediate hazards to participants.*

2. Describe proposed change(s), including justification:
   Changes made after Laurence's thesis proposal hearing to the letter and information sheet making both more "generic" and less specific to the topic. There was concern on her committee that use of the term sustainability was leading (since it is the focus of her research question) and might negatively impact her methodology. Also made a few minor changes to the interview guide…added a couple of pieces of information sought and elimianted question 4.

3. Will the change involve a change in principal or co- investigator?
   ☒ No
   ☐ Yes: *Include an Investigator's Assurance (last page of protocol form), signed by the new PI or co-investigator.*

   Note: If the change is limited to addition/change in research team members, skip the rest of this form.

4. Will the change(s) increase any risks, or present new risks *(physical, economic, psychological, or sociological)* to participants?
   ☒ No
   ☐ Yes: *In the appropriate section of the protocol form, describe new or altered risks and how they will be minimized.*

5. Does the proposed change involve the addition of a vulnerable group of participants?
   Children: ☒ no ☐ yes – include the *Children in Research* attachment form
   Prisoners: ☒ no ☐ yes – include the *Prisoners in Research* attachment form
   Cognitively impaired individuals: ☒ no ☐ yes*
   Economically or educationally disadvantaged individuals: ☒ no ☐ yes*

   **Provide additional information where applicable in the revised protocol form.*

6. Does the proposed change involve a request to waive some or all the elements of informed consent or documentation of consent?
   ☒ no
   ☐ yes – include the *Informed Consent Waiver or Alteration Request* attachment form

7. Does the proposed change involve a new research site?
   ☒ no
   ☐ yes – include a letter of permission/cooperation, IRB approval, or grant application or contract

If information in your previously approved protocol has changed, or additional information is being added, incorporate the changes into relevant section(s) of the protocol. Highlight (e.g. print and highlight the hard copy, or indicate changes using all caps, asterisks, etc) the changed section(s) and attach a copy of the revised protocol to this form. *(If the changes are limited to addition/change in research team members, a revised protocol form is not needed.)*

Impact for Participants (future, current, or prior):

1. Will the change(s) alter information on previously approved versions of the recruitment materials, informed consent, or other documents, or require new documents?
   ☐ No
   ☒ Yes - attach revised/new document(s)

2. Could the change(s) affect the willingness of *currently* enrolled participants to continue in the research?
   ☒ No

☐ Yes - describe procedures that will be used to inform current participants, and re-consent, if necessary:

3. Will the change(s) have any impact to *previously* enrolled participants?
   ☒ No
   ☐ Yes - describe impact, and any procedures that will be taken to protect the rights and welfare of participants:

---------- FOR IRB OFFICE USE ONLY ----------

Request is: ☒ **Approved** ☐ **Not Approved**	
Review: ☒ **Exempt, category#:** 2 ☐ **Expedited method, category #** ____ ☐ **Convened meeting, date:** ____	
IRB Signature: Kristy Shirley	**Date:** 6/8/2012
Comments:	

Protocols previously declared exempt: (Allow 5 working days) If the proposed change does not alter the exemption status, the change may be administratively reviewed by qualified IRB staff, chair, or designee. If the change(s) would alter this status, Expedited or Full Board review will be required.

Protocols previously reviewed by the expedited method: (Allow 10 working days) Most changes may also be reviewed by the expedited method, unless the change would increase risks to more than minimal, and/or alter the eligibility of the project for expedited review.

Protocols previously reviewed by the full board: Minor changes (not involving more than minimal risks, or not significantly altering the research goals or design) may be reviewed by the expedited method (allow 10 working days). Those changes determined by the IRB to be more than minor will require review by the full board (due 10 working days prior to next scheduled meeting).