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An Examination of Hurricane Emergency Preparedness Planning at Institutions of Higher Learning of the Gulf South Region Post Hurricane Katrina

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The University of Southern Mississippi

AN EXAMINATION OF HURRICANE EMERGENCY PREPAREDNESS
PLANNING AT INSTITUTIONS OF HIGHER LEARNING OF
THE GULF SOUTH REGION POST HURRICANE KATRINA

by

Caterina Gulli Ventura

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

May 2010

ABSTRACT

AN EXAMINATION OF HURRICANE EMERGENCY PREPAREDNESS PLANNING AT INSTITUTIONS OF HIGHER LEARNING OF THE GULF SOUTH REGION POST HURRICANE KATRINA

by Caterina Gulli Ventura

May 2010

The purpose of the study was to examine hurricane emergency preparedness planning at institutions of higher learning of the Gulf South region following Hurricane Katrina. The problem addressed the impact of Hurricane Katrina on decision-making and policy planning processes. The focus was on individuals that administer the hurricane emergency preparedness plans and processes at universities. The research sought comprehension of the complexity of responsibilities while aspiring to build more effective policy. The research procedures consisted of two phases. The first phase of the research used the hurricane emergency preparedness plans of universities and colleges in Alabama, Louisiana and Mississippi to create a simple content analysis. The second phase of the research design consisted of interviewing of four participants who were institutional authorities from the universities in the Gulf South region. The interviews were conducted telephonically and in person. One research question asked whether Hurricane Katrina impacted the hurricane emergency preparedness planning at institutions of higher learning. A second research question asked if the plans are mandated by NIMS (2008). Another research question asked if personnel administering the plans have proactive roles in the decision-making and policy processes. The results of

the data collection provided evidence supporting the researcher's major and secondary research questions.

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CHAPTER I

INTRODUCTION

Nature may be beautiful to many individuals, (Lindell, Prater, & Perry, 2007) but diverse climate-related events have repeatedly borne out the opposite fact, namely, that it can also be deadly. Institutions of higher learning in the United States have, during the twentieth and twenty-first centuries, experienced calamities with origins that were either the results of manmade actions or that were the outcomes of natural weather occurrences (United States Department of Homeland Security, Federal Emergency Management Agency [DHS FEMA], 2003). From coast to coast, earthquakes, floods, hurricanes and shooting sprees, to list only a few; have marred, either with miniscule or monumental consequences, the educational experiences of students (U.S. Government Accountability Office, 2007). The effects can impact thousands of students of postsecondary institutions (U.S. Department of Education, 2008). Laanan and Schuh (2006) address the plethora of important changes wrought by catastrophes and the possible effects on students such as depression and uncertainty. One can sense how vital it is for individuals and students in the field of higher education administration to comprehend the potential ramifications that can result from any type of threat. Thus, as administrators from institutions which have been through such experiences state (Cavanaugh, 2005), the possibility of a natural weather disaster causing disruption in the educational delivery system is a serious reality and one that warrants thorough examination.

This research examines institutional directives that exist because of hurricanes, which threaten the operations of colleges and universities throughout the United States coastal regions. The topic of the research focuses on hurricane emergency preparedness planning. According to a governmental report, millions of Americans live within the

distance of coastal areas where hurricanes may strike (U.S. Department of Commerce, 2004).

The topic for the research study, post-Katrina policies and processes of hurricane emergency preparedness planning at institutions of higher learning, is an important investigation. As one authority declares, the hurricane, as well as other storms of the 2005 season, was disastrous and its ramifications on the United States of America were meaningful in many ways (Rubin, 2005). According to one official government guide, the areas most prone to the storms consist of “all Atlantic and Gulf of Mexico coastal areas...as well as parts of the Southwest United States and the Pacific Coast” (FEMA, 2004, p. 66).

Purposely, the research area of interest focused on the hurricane emergency preparedness plans of institutions of higher learning in the United States of America, with the emphasis being universities close to coastlines. Explicitly, the analysis consisted of the examination and interpretation of data collected from universities and colleges in the Gulf States region of the United States. The area of the Gulf, as experts write, is traditionally in danger from hurricane disasters (Pielke & Pielke, 1997). Several colleges and universities that were “victims” of hurricane Katrina in 2005 comprised the sampling from the population for the study.

Hurricane emergency preparedness plans from the University of New Orleans, the University of Southern Mississippi, Tulane University and the University of South Alabama provided the basis of one phase of inquiry for the research study. The plans also aided in formation of a variable list that the researcher used to create a set of semi-structured interview questions for the second phase of inquiry. The participant sampling was refined for the second phase.

Today, in the year 2009, the hurricane season of 2005 no doubt seems distant and surreal. However, even four years after the hurricane, for the millions of people who were residents in the locales struck by the Hurricane Katrina, the months of August, September and October recall nightmares that brought horrendous shocks. The effects of that three-month period in 2005, in fact, still influence the daily lives of thousands of people as newspapers such as the *Gulf Pine Catholic* articulates (Diocese of Biloxi, 2007).

Hurricanes and other natural disasters, as one congressional report states, possess the abilities to decimate universities' infrastructure physically and to disrupt operations (U.S. House of Representatives, Committee on Education and the Workforce, 2006). Besides the destruction to bricks and mortar and computers and classrooms, as one international entity informs, the trauma arising from catastrophes is compounded by feelings of fear and insecurity (OECD, 2005). During the last decade, experts have written much about the ways inhabitants of the Gulf South region of the United States of America have endured the brunt of numerous storms (Barnes, 2007). Disasters and catastrophes have left indescribable havoc and have come with costs running into the millions of dollars for colleges and universities (IACLEA, 2006). Therefore, personnel of institutions of higher learning must prepare their respective institutions for any eventuality produced by either man or nature to ensure the safety of students and personnel. As Wallace and Webber (2004) explain in their handbook, preparation is necessary to guarantee the "continuity of operations" (p. 4).

The rationale for the study is thus simplistic but imbued with imperatives. The study wished to gauge the impact of Hurricane Katrina on hurricane emergency preparedness planning at institutions of higher learning. Therefore, any other secondary rationalization for the research was contingent upon the premise of the primacy of

protecting life and the duty of the institutions to do so diligently through the development, implementation and maintenance of hurricane emergency preparedness plans. Besides the main reasons for the study, the researcher, as a student of higher educational administration, possesses a personal comprehension of the gravity of weather disasters affecting universities because of having lived in various areas that are prone to hurricanes. Furthermore, as a member of one of the subject university communities, which suffered tremendous losses because of Hurricane Katrina, observations and evaluations of hurricane emergency preparedness plans was requisite for practical reasons. The personal experiences intensify the actual concerns and ramifications that may affect, first and foremost, individuals' lives. In addition, the experiences also may threaten to unravel both short term and long term planning initiatives at the postsecondary institutions and that may elevate institutional liability to unmanageable levels.

Moreover, rationalization for the fiscal considerations from a macro perspective prompted one to assess the consequences of institutional preparation for such weather phenomena and to evaluate the viability of attainment of the goals. Consequently, examinations of the current institutional policies and any subsequent results from said policies are of tremendous value both personally and professionally because colleges and universities are, as the rich past of public education's history in the United States reminds one (Newman, Couturier, & Scurry, 2004). leaders in the realm of the provision of the public good. Academia, being a staunch advocate of public service, as another writer reminds, has always sought to confront any obstacle that has threatened to derail her from her purpose and to possess the wherewithal to meet any type of challenge (Quigley, 1986). Similarly, one can glean from Blocker, Bender and Martorana's (1975) discussion

of power, the importance of maintaining stability at colleges and universities. Hurricanes are more than a challenge: the storms, as numerous images have shown gruesomely (CNN, 2005), are impediments to the progress of student's success in their educational quests. Therefore, preparation requires serious planning and awareness. Furthermore, the number of incidents is believed to be escalating disproportionately, according to McEntire (2007) who bases his comments on others' work.

The researcher presents in Chapter II of the dissertation, an introduction that explains the theoretical models upon which the research study is premised. Chapter II also provides a review of literature. The central focus of the examination of literature was to review public policy, hurricane policy and disaster studies that have emphasized hurricane preparedness and mitigation, particularly for institutions of higher learning. Attention was given to information on decision-making and policy processes. As one source suggests (Anderson, 2006), the area of study requires integration of the tenets of several disciplines; therefore, the researcher made use of relevant literature from various fields of academic study.

To elaborate, the literature review includes sources that discuss institutional hurricane emergency preparedness, as well as campus safety relative to the storms. The following list is neither exclusive nor inclusive but heretofore is presented merely to introduce some types of resources that comprised the essence of the literature review. The first section of the literature review consists of review of academic journals, with further delineation by discipline where it was possible. A subsection was dedicated to information from university research centers such as the Louisiana State University Center and the University of Colorado at Boulder.

The literature review also includes emergency management manuals and textbooks that provide important background literature about institutional emergency preparedness planning with regards to organizations such as colleges and universities. A section on U.S. government reports includes documents from the U.S. Department of Homeland Security, in particular from The Federal Emergency Management Agency (FEMA). Similarly, the section includes reports from the U.S. Government Accountability Office, which articulate issues of emergency preparedness, post Hurricane Katrina. Lastly, relevant items available from the U.S. Department of Education, Office of Postsecondary Education and other branches of the United States federal system were also searched for pertinent literature.

The next section of the literature review examines dissertations and theses with quantitative and qualitative studies whose foci are complementary to the research objective of the current study. The last section of the review presents international sources that include journals and reports from nongovernmental organizations such as the United Nations and the World Bank Group. In conjunction, a minor section on practitioner literature reviews current initiatives that have bearings on the research study.

Statement of the Problem

The problem addresses the impact of Hurricane Katrina on hurricane emergency preparedness planning at institutions of higher learning since the year 2005. In particular, the research focuses on individuals that administer the hurricane emergency preparedness planning processes. The problem queries authorities for two reasons. The first reason is to comprehend their individual and collective responsibilities. The second reason is to use their experiences to construct more effective policy.

Research Questions

The following questions address institutional decision-making and policy concerning hurricane emergency preparedness planning. The main research questions are:

- Do institutional authorities administering hurricane emergency preparedness plans have proactive roles in the decision-making and policy processes of their university's plan development?
- Are the current plans the result of Hurricane Katrina affecting the institution and products of actions taken post hurricane season 2005?
- Are the plans mandated by the National Incident Management System (2008)?

Secondary research questions are:

- Are the participants' hurricane emergency preparedness plans the plans that existed before Hurricane Katrina and have only undergone revision to comply with government requirements?
- Do key personnel, who administer the plans, participate in the policy-making process?
- Are the universities developing different hurricane emergency preparedness plans from pre-Katrina, to adhere to local, state or national guidelines?

The variables for the research study are:

1. institutional authorities' roles in hurricane emergency preparedness decision-making and policy processes
2. participants' awareness of hurricane emergency preparedness plans
3. participation in the creation of hurricane emergency plans, responsibilities of participants for implementations of the plans

4. the existence of inter-local agreements, universities governing boards' requirements for administrators and other institutional authorities
5. liaisons with local, state and or federal assisting agencies.

Some examples of agencies are the Federal Emergency Management Agency and the Mississippi Emergency Management Agency.

Definition of Terms

Terms used in the research study are defined as follows:

Crises refer to any situation that is beyond ordinary daily events and that requires implementation of specific procedures to handle the situation.

Emergency preparedness refers to any procedure that is established by an authority to address an emergency.

Hurricane is a tropical cyclone with magnitudes measured on the Saffir-Simpson Scale (Schwab, Eschelbach, & Brower, 2007), and contingent upon the category that it reaches, it may become a disaster.

Incident is a word that US governmental authorities sometimes use to refer to disasters (Schwab, Eschelbach, & Brower, 2007).

Mitigation is a procedure to reduce the affects of a disaster (Schwab, Eschelbach, & Brower, 2007).

National Incident Management System assists various levels of the United States government plan for disasters (Sylves, 2008, p. 268).

Natural disaster is a phenomenon that is not man-made (Lindell, Prater, & Perry, 2007).

Risk Assessment is a process by which to determine vulnerabilities should an incident occur (Lindell, Prater, & Perry, 2007).

Delimitations

The research study design was delimited in several ways. The first way was the scope of selection for participants for the study. The selectivity of participants was a delimitation deliberately meant to include only certain universities' institutional authorities. The participants were drawn from the states of Alabama, Louisiana and Mississippi. The states in the Gulf South region of the United States of America were optimal choices for the research study. Each geographical area is home to one or more institutions of higher learning that experienced physical damage to their campuses, either as a direct or as an indirect result of the impact of Hurricane Katrina during the 2005 hurricane season (Barnes, 2007). Limitations may also have been imposed because of the way the sampling was selected. The ability to extract the data for the study through public access of the universities' hurricane emergency preparedness plans also contributed to the choice of participants for the main phase of inquiry. As such, the selection procedure further imposed a limitation on the randomness of the sampling. To explain, the availability of the institutions' hurricane emergency preparedness plans on the Internet encouraged selection of the universities from which to obtain plans. In a like manner, selection of the participants was also based on the facileness to retrieve information from the Internet. In conjunction to the availability of collection of the information subconsciously introducing bias, another possible delimitation of the project was the researcher's need to manage the amount of data. By itself, the decision on the amount of observations to include further limited the study. The researcher contends though that the sampling still yielded at minimum, a comprehension of the commonality of the institutional hurricane emergency preparedness plans and processes.

The next section of the dissertation briefly presents some information about some of the universities from which the sampling from the population was drawn. Tulane University and the University of New Orleans were included in the investigation because of their universities' respective locations in the City of New Orleans (AAUP, 2007). As it is well documented in Moyer (2005), the city suffered horrendously because of Hurricane Katrina. Furthermore, the universities were examined because of the researcher's desire to distinguish between public and private universities' hurricane emergency preparedness planning. The researcher wanted to include the procedures as a way to compare and contrast.

The University of South Alabama was selected because of the geographical location of the institution in the State of Alabama. The main campus and other institutional facilities are located in and around the City of Mobile, Alabama. The city is on land adjacent to the Gulf of Mexico and therefore potentially in the path of hurricanes.

The University of Southern Mississippi was a choice as a subject university because the institution experienced huge losses during Hurricane Katrina at the Long Beach campus of the institution, which is located on the Mississippi Gulf Coast (Southern Miss Alumni Association, 2007). Likewise, the university's selection in the sampling was justifiable because the eye of Hurricane Katrina passed over the City of Hattiesburg, Mississippi, the site of the main campus, on August 29, 2005 (Gannett, 2006).

Assumptions

A major assumption of the current research study was that any hurricane emergency preparedness plan obtained from the Internet was in fact the plan that was currently in use at each subject university. Therefore, each plan, at the time of the research collection and subsequent analysis, was the institutional paradigm. In addition,

there was an assumption that the hurricane emergency preparedness plan, in effect at the time of the study, was a different and/or revised plan from any hurricane emergency preparedness plan that was the institutional paradigm prior to the 2005 hurricane season. Consequently, a critical assumption of the research investigation, with the basis emanating from a reading of Tierney (2008, p. 133), was that of the universities that comprised the sampling from which participants were selected, some, if not in actuality all, plans underwent revisions of their hurricane emergency preparedness plans because of the assessment periods following the 2005 hurricane season. The assumption about revisions also elicited concern from the researcher because assessment of hurricane emergency preparedness planning could have manifested itself differently than the researcher imagined. Even more perplexing to the researcher was the possibility that assessment did not occur at all because of a variety of reasons. Furthermore, there existed, in the mind of the researcher, the assumption that the participants from the potential sampling of universities, all placed a high priority on hurricane emergency preparedness planning. Similarly, as one expert explains, “Disasters, by their very nature, create challenges that cannot always be predicted and planned for” (McEntire, 2007, p. 93). Therefore, the research sought in a concerted fashion to be mindful that the plans were just “plans.”

The supposition also existed that all available avenues to facilitate the research were inclusive; however, the far more likely scenario was one in which it was unequivocally impossible to foresee circumstances that neutralized the scope of the aforementioned research and therefore caused omission of a vital piece of information that fundamentally altered the entire study. Finally, there existed an inherent assumption that the research questions sought neither to judge nor to ascertain whether the saliencies

of the hurricane emergency preparedness plans were the results of deliberate malfeasance and or incompetence. The questions were simply the vehicles by which the researcher sought to acquire information to examine a standardization of procedures. To quote one author, who articulates the premise succinctly, “No decision is good or bad in and of itself. How it is evaluated gives it its value” (Dilley, 1970, p. 109).

Justification

A major justification for the research study was the minimization of student, faculty and staff fatalities and or injuries, which may occur because of a major hurricane. The objective became discernible by determining the strengths of the existing hurricane emergency preparedness planning policies. Student safety was above all else a major responsibility of institutional authorities. Similarly, as one expert reminds, local entities possess authority for preparedness (Flynn, 2007). Unfortunately, the same author writes that the magnitude of storms; such as Katrina portend the decimation of resources (Flynn, 2007, p. 5). Nonetheless, another justification for the study arose from the researcher’s aspiration to generate potential recommendations in hurricane emergency preparedness planning that might ultimately enhance institutional effectiveness. Furthermore, as the author of the same text declares (Flynn, 2007), the money matters are intensified if the various authorities, regardless of type of entity, fail to prepare for incidents that may be disastrous. Consequently, one may argue that it does make a difference for financial reasons for institutions of higher learning to be prepared beforehand, rather than utilizing limited resources after a serious occurrence.

Another justification for the current research was derived from a reading of Baumgartner and Jones’s *Agendas and Instability in American Politics* (1993). The authors write that elevated public exposure to an issue usually prompts policy change (p.

20). As such it was advantageous to conduct research on the topic because of the massive amounts of coverage that disasters and in particular hurricanes have received in recent years. The year 2008 was another year in which hurricanes dealt destruction along a wide swath of the United States of America. Finally, a justification for the research study revolved on the premise of sufficient cognizance of the decision-making processes and formulation of policy initiatives that institutional authorities use in such instances. The acquisition of such awareness possessed the potential to become the impetus for a broader impact by being an educational example to students who are to serve in administrative capacities in higher education settings.

CHAPTER II
LITERATURE REVIEW
Theoretical Foundations

The theoretical models of Birkland (2006) and Kingdon (2003) are applicable for a study of the behavior of administrators and institutional authorities who have jurisdiction over higher educational institutions' hurricane emergency preparedness plans. Birkland's work, although not a theory in the literal sense, is useful to the researcher because it is a "model of event related policy learning" (2006, p. 1). Kingdon's model, referring to organizational policy making, introduces one to the language of "streams and coupling" (2003, pp. 85-86).

The two models provide a theoretical foundation for the research study to help one consider how colleges and universities behave as organizations with, as Englert (1986) writes, "diverse" missions and "diverse" responsibilities (p. 102). Regardless of demographics or categorizations, each institution of higher learning can be the focus of an organizational study because of the range in infrastructure and organizational hierarchies. The breadth of colleges and universities in the U.S. therefore requires utilization of a framework that helps key administrators understand multi-faceted operations of various institutions. The statement is especially pertinent since the research involves examination of preparations for the advent of a major crisis; namely, hurricanes.

Birkland's "model of event related policy learning" (2006, p. 1) addresses disasters that contribute to preparedness policy planning and provides details that include a more symmetrical formulation of policy. Decision-making and public policy are not inherently chaotic manifestations but developed because of a series of circumstances that are catalysts for action. Birkland draws from Kingdon's concept of "focusing events"

(2003, p. 94) as stimulus and builds upon the model to generate a theoretical model that is attributed to him.

Kingdon's "streams and coupling" model (2003, pp. 85-86) is a model that draws upon "the garbage can model" of Cohen, March and Olsen (1972, p. 2). To elaborate briefly, Kingdon writes that many factors join when decision-making occurs, contrary to the belief that various issues are thrown together randomly (2003). In their seminal work, Cohen, March and Olsen (1972) described universities as "organized anarchies" (p. 1). The historical model is the point of commencement for definition of Kingdon's explanation of the processes because it establishes a landmark for the researcher seeking to speak to the elements that contribute to the gravity of policy formulation at institutions of higher learning.

In 1984 Kingdon sought to complement the earlier decision-making model by introducing his policy model that used the term "focusing event" (Kingdon, 2003, p. 94). Such an event may be a crisis, a problem or part of an agenda and consequently requires a solution. Kingdon sought to delineate aspects of a framework that addressed policy and agenda setting. Two decades later, referring again to organizational policy making, Kingdon brought forth the revised model that expanded upon the factors one studying policy formulation of organization needs to consider. His model equips the researcher with guidance to the decision-making and policy formulation processes that dominate administrators' and institutional authorities' schema (Kingdon, 2003). Kingdon's "streams and coupling" model gauges the standard of awareness that each individual possesses. Together, the works of Birkland and Kingdon are the theoretical models that create a conceptual framework that is as dynamic as the organizations themselves.

Baumgartner and Jones (1993) introduce another idea when discussing the work of Kingdon. When issues become important and warrant attention, if some policy already exists, the need and pattern of the updated model for action may be volatile (Baumgartner & Jones, 1993, p. 6). The researcher, however, sought to find evidence supporting the belief that various authorities at institutions of higher learning actively engage in the processes, instead of operating in a haphazard manner. Thus, the models, when examined in tandem, assisted the progression of the research study by providing a greater understanding to the researcher and hopefully augmented the evolution of the study.

Academic Journals

Making connections: A network approach to university disaster preparedness. *Journal of College Student Development*, 48(3), 331-343.

The following is a review of the article from the above cited academic journal. In the article, Stein, Vickio, Fago, and Abraham (2007) present the results of a case study that was conducted at a United States of America university. The research focused on the delivery of mental health services, post disaster. The study sought to evaluate “network connections” (p. 332) through construction of matrices obtained from vignettes that were created and distributed to individuals at the subject universities. The subsequent analysis of questionnaires resulted in findings that suggest weaknesses in the organizational structure with regards to preparedness. Stein et al.’s study is pertinent to the current research literature review because it examines disasters and organizational issues at colleges. Although the delivery of mental health services is an aspect of preparedness that the current researcher will not examine, this article suggests the breath of ongoing research by experts and the complexities of the nuances that motivate examination of institutional procedures. Unfortunately, Stein et al.’s study, with an N of 12 and the

apparently narrow scope, concedes the need to pursue research further. Notwithstanding the authors' own conclusion, the inclusion is pertinent to the current review because of the examination of organizational issues at colleges.

Disaster management: The structure, function, and significance of network-centric operations. *Journal of Homeland Security and Emergency Management*, 5(1), Article 42.

von Lubitz, Beakley, and Patricelli (2008) describe and recommend establishment of operations that will redesign the essential criteria of the methods of distribution of information during a disaster. One emphasis of the article is that disasters have certain attributes in "common," and the authors remark upon the need to understand the statement and to create from the premise a standard that will permit information to be conveyed in an effective manner. According to the authors, in military and combat environs, such a system to strengthen communication and operations does exist. Of relevance to the current research is the passage that remarks upon the "interdisciplinary" requirements requisite in emergency preparedness. The fascinating discussion, however, would well serve one whose focus is technological per se, and although it prompts one to reconsider the breath of knowledge necessary to make decisions for hurricane emergency preparedness at institutions of higher learning, the details in the article are somewhat beyond the realm of the dissertation's topic.

Emergency management planning as collaborative community work. *Journal of Homeland Security and Emergency Management*, 5(1), Article 10.

This article presents the results of research that Schaefer et al. conducted on collaborative community work. The primary emphasis of the article is emergency

planning. According to the authors, the group effort had the intent of demonstrating the need to develop software to assist in the processes associated with the planning for emergencies. The study examines the tasks from collaborative efforts, local area details, local culture, geographic information and emergency plans. The principal agent of examination for the academic journal article is a case study at a small airport.

The duration of the research, according to the authors, was a nine month time frame. As is written in the article, five semi-structured interviews were held with the local emergency management coordinator of State College, Pennsylvania. In addition to the interviews, the researchers went to meetings and furthermore extracted information from items such as meeting minutes. The article also emphasizes that the group of researchers met on a regular basis to review and triangulate the data.

From the content of the article, the researcher concludes that the design was qualitative; however, the omission of any examples of the data preclude categorically representing the statement as fact. The current research benefits from the inclusion of the article because of several reasons. First, the authors discuss the inclusion of university personnel in the community planning that included various local entities. Similarly, a discussion of the city's population indicates that a major segment, approximately fifty percent of the population, is in fact college students. Specifically, the rural locale has a large college population of 40,000 students. Furthermore, when the authors mention numerous emergency plans that exist in the area designed to meet different types of incidents, they include several plans that are in existence specifically to address incidents on a campus. For instance, the authors make note of campus authorities formulating plans for power outages, nuclear events and sporting events.

The article demonstrates the complexity of the circumstances that confront administrators and institutional authorities, who are responsible for the safety and well-being of the students, the faculty and the staffs of institutions of higher learning. Although the authors present the research findings explicitly to support the need for software, the article is instructive because it affirms the need for quantitative research to gauge the decision-making and policy processes of said personnel. Lastly, recalling the theoretical models of the current research, the article demonstrates one of the premises that planning occurs in a systematic fashion and consequently is not intentionally haphazard.

The article, as mentioned earlier, discusses the results of a case study involving a small airport in rural State College, Pennsylvania. A focus of the authors' research on emergency preparedness utilized an "ethnographic approach." Therefore, the article merits inclusion in the literature review for several reasons. The second reason for placement in the literature review is the fact that the geographical area has an emergency manager who has responsibilities for the campus community as well as other areas in the region. Lastly, the professional has, according to the researchers, experience in hurricane preparedness.

Although the study addresses various aspects of preparedness for various types of incidents, one interesting comment that sheds lucidity but may often be overlooked is that all individuals involved bring "their beliefs and opinions" to the process (p. 7). For the purpose of the current research, the prism receives greater illumination when the authors explain that the college community itself has numerous emergency plans that are based on different scenarios. In addition, the article makes note of the fact that the meetings of the community organizers, with responsibilities for the phases associated with

emergencies, fail to include “documented decision-making” (p. 13). As one may recall, a central premise of the current research is an examination of university administrators and institutional authorities’ roles in the decision-making and policy processes associated with hurricane emergency preparedness. Although the current inclusion addresses a hypothetical scenario at an airport, the mention of an omission of documentation is relevant because without a record one wonders about the methodology.

University Research Centers

Vital resources for all in society are university research centers. For the purposes of the current research, several require mention. Louisiana State University Center is one such example of an institution. The LSU Hurricane Center (2008), according to the center’s website, provides information for training, research and preparedness. Furthermore, after Hurricane Katrina in 2005, members of the LSU community wrote a text that provides a model for disaster response. The book, *LSU in the Eye of the Storm, A University Model for Disaster Response*, describes firsthand experiences of individuals from the university community during the aftermath of the catastrophe and includes a compact disc that supplements the written component.

Another university research center website that is a worthwhile resource for individuals interested in hurricane emergency preparedness is the Natural Hazards Center Institute of Behavioral Science at the University of Colorado at Boulder (n.d.). In addition to the website resource as a whole being facile to navigate for information, the institute’s *Natural Hazards Observer* is a publication available both electronically and in print. The publication discusses current trends, recent research, training opportunities and provides information on websites and literature available.

Books

Campus crisis management: A comprehensive guide to planning, prevention, response and recovery

At first glance, the title of the book is captivating to a student conducting research on hurricane emergency preparedness at institutions of higher learning. However, as one turns the pages, one realizes that Zdziarski, Dunkel, Rollo, and Associates' (2007) statement that the text provides a "framework" is in fact accurate. Not to be misunderstood, the book is important for several reasons. For instance, the explanations about the numerous crises that colleges and universities may be subjected to are vital commentaries on the obstacles that can impede the educational experiences of numerous students. Similarly, the rejoinders for awareness that numerous aspects of preparedness need to remain on the forefront of planning is important for anyone involved in the process of crises planning. In addition, the descriptions of the spectrum of incidents and the various degrees of consequences to campus communities' infrastructures are relevant to administrators involved in the decision-making process. Nevertheless, with regards to the literature review's focus on administrators and institutional authorities' decision-making and policy formulation, the text takes an applied, not a theoretical, approach. Yet, it is a timely work from experts with experiences that are important to preparedness.

Emergency management: The American experience, 1900-2005

The text is a collection of essays that contribute to one's acquisition of facts that are part of the diverse historical saga of the field of emergency management. Rubin (2007), the editor, includes perceptions that have developed throughout the years about the methods to address various types of incidents (Harald, 2007, p. 163). The years of the

twentieth century, as well as those at the beginning of the twenty-first century, have demonstrated the philosophical approaches that have required change throughout the period. Although the details of the past initiatives by various levels of the United States government are important for both students and administrators in higher education, the relevant aspect of the text for the purpose of the current research and literature review is discernible in Chapter 8, “From a Painful Past to an Uncertain Future.” In this chapter, Ward and Wamsley discuss the policy-making model of Kingdon (2003).

As mentioned in the introduction of the literature review, Kingdon’s contribution to the examination of policy-making is an effective tool for the researcher to utilize to discover the impetus that persuades or dissuades institutional authorities when creating preparedness plans for colleges and universities. In addition, Ward and Wamsley stress one attribute of the model that is known but often taken for granted: the conceptualization by Kingdon of “streaming” is “lawmaking” (Ward & Wamsley, 2007, p. 217).

Colleges and universities, regardless of type, category and location, come under the auspices of a higher authority. Whether a board, commission or trustees, to list the most common and familiar labels, each institution possesses a hierarchy (Birnbaum, 1988). The institution therefore does answer to someone or something and must abide by rules and/or laws. As such, decision-making and policy processes of hurricane emergency planning have a measure of legitimacy regardless of the level of codification.

Disaster policy and politics: Emergency management and homeland security

Sylves’s book (2008) is an excellent resource for anyone with an interest in disaster studies. The author articulates succinctly the various phases of emergency management in the United States of America. He provides terminology relevant to the

contemporary student and to the practitioner of the field. In addition, Sylves discusses theories and models that have contributed to the evolution of the study of disasters. From both the scientific and administrative disciplines, the objective of the author is to acquaint the reader with the past, present and future of the complex field of emergency management. His discussion of the various levels of governments' roles in preparedness is also relevant to the current research because of the emphasis on the complexities of intercommunication amongst numerous entities. Furthermore, inclusion of a plethora of historical context of United States legislation provides a framework for anyone who has an interest and inclination in digesting all of the information. Sylves indicates that he wishes to encourage interest in the field of study. He achieves the objective with remarkable alacrity.

Disaster in aisle 13: A case study of the coliseum explosion at the Indiana State Fairground October 31, 1963

Complex organizations share common attributes such as scope of responsibility and diversity of function. Drabek's book (1968) is relevant to the literature review of the current research study for several reasons. The text, as an early work in the study of social and behavioral aspects of disaster, is one in which the author suggests the need to conduct greater research. Almost half a century later, the literature available has grown exponentially but still encourages the search for greater comprehension for the nuances of each type of incident. Of particular relevance is that comprehensive research results of a longitudinal nature are currently absent with regards to the current study's research question.

A second reason that the historical reference merits inclusion in the literature review is because of the commentary on the strengths and weaknesses of organizational infrastructure subsequent to an occurrence. Of specific importance to the current research study is Drabek's commentary in Chapter V, Section 1: "some organizational officials have an incorrect conception of disaster behavior and allow it to guide organizational actions" (p. 147). The example that the author includes refers to hurricanes. Does Drabek's commentary of the example of organizations actions still possess the power to influence present day organizations when examining decision-making and policy processes?

Human system responses to disaster: An inventory to sociological findings

Approximately twenty years after the publication of *Disaster in Aisle 13*, Drabek (1986) provides additional insight in this book. As a historical example of a compilation of knowledge available in that era, one is able to ascertain the depth and breadth of focus on the human factor to a plethora of incidents. As the author explains, delineations by individual and system level response were utilized for the purposes of the review. However, for the current research, the text's findings are predominantly on the behavioral aspects and thus require merely acknowledgment.

The shifting frontiers of academic decision making: Responding to new priorities, following new pathways

In Chapter 1, Eckel (2006) provide anyone who is pursuing a career in academia with a glimpse into the future. The contributors speak of the dynamics of an increasing sphere of matters that require the attention of institutional leadership. Although direct

mention of hurricane emergency preparedness is absent within the body of the work, one must acknowledge the pertinence of the literature to the current research. Namely the concept of “academic decision making” is one that requires inclusion because of the current research’s examination of administrators and institutional authorities’ decision and policy making roles, with regards to hurricane emergency preparedness. Explicitly, the emphasis that is discernible and its importance to administrators in higher education are obviously elucidated by the title itself.

Hurricane preparedness: Facing the reality of more and bigger storms

Gavin (1996) in *Hurricane Preparedness* provides an explanation of “Hurricane Evacuation Studies.” According to Gavin, the studies was “the population protection element of the Federal Emergency Management Agency’s Hurricane Preparedness Plan” (p. 53). The book is of interest to the current study’s literature review because of the historical manifestations of empirical data that was aggregated during the latter part of the twentieth century.

Emergency management in higher education: Current practices and conversations

This book is an edited work of presentations at the 10th Annual Emergency Management Education Conference. According to the editor’s introduction, emergency management programs exist at almost 200 institutions of higher learning in the United States of America. The selections of topics include the future of the field as a profession, shifts in the identities of students who pursue academic degrees, and critical issues that require greater considerations.

The text in totality is a fascinating collection of information with each section addressing an important facet of emergency management; however, for the present literature review, it behooves one to concentrate on those inclusions that contribute to the research objective. As such, the student researcher acknowledges the particular relevance of chapters four and seven. With regards to the research topic of hurricane emergency preparedness, the contribution from Woodbury (Ch. 4) discusses the nuances of distinguishing between preparedness and planning. Although the selection focuses on organizational issues of the Department of Homeland Security, it is relevant to the current research because comprehension among various personnel participating in preparedness needs to approach the matter from a comparable viewpoint. Woodbury emphasizes “approaches to managing risk” (p. 50). The focal point is subjective contingent upon one’s role. It is imperative to recall that higher education institutions’ administrators and institutional authorities participate in the decision-making and policy process of preparedness in a manner that may share a commonality of working in the academic world. Yet, the individuals most likely come from numerous disciplines that are not traditionally aligned with emergency preparedness or risk management. Another important aspect that Woodbury focuses on is manifestations that may occur contingent upon the type of crises and probabilities of occurrence.

Hurricane! Surviving the big one: A primer for libraries, museums, and archives (2nd ed.)

Trinkley (1998) provides a step by step procedure for the units that are listed in the book title. The work is relevant as a resource because of its emphasis on the importance of preparedness planning. Two points worthy of note are that administrators need to be mindful that personnel will have differing reactions to disasters and that each

individual should be cognizant of their own role in the preparedness process. For the current research, the author's discussion is of interest because universities and colleges traditionally are sites of libraries, museums and archives.

Building security: Handbook for architectural planning and design

Nadel (2004), the editor, states that institutions of higher learning are behemoths that arise from planning, implementation and decision-making processes that encompass many realms. In Ch. 20 of this volume, Blurock provides excellent resources for administrators seeking to address the physical aspects of preparedness for their respective universities. However, other chapters of this book do not address any of the aspects that the current study seeks to ascertain.

Dissertations

The great comeback: A comparative analysis of disaster recovery actions in higher education

Johnson's (2007) dissertation is an important inclusion for the current literature review. He provides the researcher with affirmation of the importance of researching leadership issues in the realm of higher education with regards to disasters. Johnson conducted qualitative case studies of Tulane University and the University of West Florida. The focus of the research is after an event; however, in the dissertation, Johnson also refers to plans that are available prior to incidents. The current research utilizes those plans that Johnson mentions. In addition, the dissertation addresses the limits of literature that exists on the topic and encourages readers to pursue the various areas of leadership and decision-making that occur at universities that experience disasters. The entreaty for cognizance of the entire process relative to disaster recovery receives excellent

explanation in the dissertation. In addition, the commentary that disasters have occurred and will continue to affect institutions of higher learning is a contention that the researcher also emphasizes.

Organizations

In 2008, the National Association of College and University Business Officers conducted a survey on campus safety and security. The survey, which is over twenty pages in length, addressed every aspect of preparedness. According to the organization's website, the survey was a collaborative and comprehensive endeavor. The researcher of the current study initially found that the results were scheduled to be discussed at the Western Association of College and University Business Officers Annual Meeting in May 2009. Subsequently, the results of the study were published in July 2009. Of interest to the current research is that a major percentage of institutions queried do possess emergency plans. Likewise, the study results indicate a high percentage of respondents' familiarity with NFPA 1600. The relevancy of the organizational study suggests the researcher's choice of topic was timely.

Emergency Management Manuals

Disaster response and recovery: Strategies and tactics for resilience

McEntire (2007) presents the probable challenges that emergency management personnel may need to contend with when meeting the issues that arise because of the various types of disasters. The text is unequivocally a manual with the intent to guide the professional practitioner during the numerous stages of response and recovery. With regards to the current literature review, the book is worthwhile to read although it does not specifically address hurricane emergency preparedness and decision-making at institutions of higher learning. Instead, the author delineates numerous concerns that

require genuine reflection by all whom participate in the different phases of preparedness. A major theme that the author includes throughout the book is the fact that disasters are not predictable. Administrators and institutional authorities at colleges and universities are being called upon during crises situations to adopt and adapt skills that usually are beyond the scope of their positions. As such, while examining the roles of administrators and institutional authorities in the decision-making and policy processes of hurricane emergency preparedness, it urges one to ask precisely the manner by which one becomes versed in the tasks. Do “team” members have access to resources which familiarize one with the legal, social, fiscal and political nuances of all that may transpire? Unfortunately, a thought that is evoked from a reading of the book is whether or not the personnel at colleges and universities comprehend the enormity of the role that falls to them regardless of whether it be because of job requirements or because of a desire to actively and or altruistically participate in the process.

Hazard mitigation and preparedness

Schwab, Eschelbach, and Brower (2007) write a manual for individuals who are enrolled either in a college program for emergency management or in a program for certification. The authors provide checklists for assessments, explanations of types of hazards, as well as other useful entries about the roles of various governmental entities with regards to preparedness. Additionally, there are many definitions and explanations about procedures, preparedness and mitigation. Each presentation is systematic and enlightening depending on the specific purpose the reader wishes to fulfill. Of interest to the current research topic is articulation of the belief that the concept of participation in preparedness is a shared undertaking. Whether one is a paid professional, a volunteer or a

citizen of an area, all are being called to some action with regards to the monumental duties that a disaster entails. Chapter 11 focuses entirely on preparedness and explains both public and private roles in the processes. Inclusion of a manual such as this one in the literature review also shows the researcher current requirements set forth by legislative authorities.

Introduction to emergency management

This manual is a primer for individuals who are at the beginning of their relationship within the realm of emergency management. The field of study encompasses so many requisites for expertise and is an eye-opening experience. The magnitude of the coordination and relationship building that is important to effective preparedness specifically and emergency management in general receives ample disclosure in this text.

Educators with roles in hurricane emergency preparedness at institutions of higher learning may be well served to verse themselves in the phraseology that reigns in the area. As Lindell et al. (2007) note, as do the authors of other comparable manuals, communicative abilities are an essential component of preparedness. For the current research topic, the book provides foundations on the existing techniques. The book also stresses the importance of effective planning. All the chapters contain tools to train, but one discussion that merits mention is in Chapter 14, whose topic is professional development. Although it is for practitioners, the passages (p.453) make one to reflect on the infrastructure at colleges and universities for all whom have an active role in hurricane emergency preparedness.

Government Reports and Documents

Building a disaster-resistant university (FEMA Report 443)

This report by the U.S. Department of Homeland Security, Federal Emergency Management Agency (2003) examines and articulates the importance of colleges and universities' need for effective preparedness. It presents guidelines and tools for administrators and institutional authorities on the framework needed to prepare and implement plans to deal with crises. The report, which predates Katrina, provides concrete examples of practices and protocols. It is significant to the literature review because it provides a glimpse into the history of institutional preparedness recommendations from the federal level; however, it is basically written as a standard operating procedure that allows for considerable leeway in applicability.

Emergency management: Most school districts have developed emergency management plans, but would benefit from additional federal guidance (GAO-07-609)

This report from the U.S. Government Accountability Office (2007) explains that 32 states have requirements that K-12 institutions have emergency plans. It states, however, that the plans do not include all recommended practices. The GAO visited 27 school districts, including the State of Florida, which was affected by the hurricanes in 2005. The data collection included two surveys that sought to determine the roles of states in emergency preparedness. The states of Texas, Mississippi and Florida, which are three of the states where the subjects for the current study are located, participated in the study. The State of Louisiana, which is also an important part of the current dissertation, did not respond to the surveys. The study is an example of the scrutiny that arose after Hurricane Katrina.

Emergency management preparedness standards: Overview and options for Congress

This Congressional Research Service report authored by Bea (2006) is an excellent resource for the current study because it affirms the critical need for the implementation of national standards with regards to hurricane preparedness planning. The report states that standard procedures for emergency preparedness were not in place in the areas affected by Hurricane Katrina. It endorses the ANSI standards, which as noted in the introductory chapter of the dissertation, supports use of NFPA 1600. Bea, a specialist in American National Government, begins the report by quoting recommendations of the 9/11 Commission's report that address emergency preparedness. Furthermore, the author suggests that there was a lack of full compliance with existing norms. The significance of the report for the researcher's investigation is the emphasis on the corollary derivable for the use of ANSI approved directives, especially for NFPA 1600.

International Journals

Disaster resistant universities: In search of strategies for resilient higher education institutions. *International Journal of Mass Emergencies and Disasters*, 24(2), 179-190.

Yemaiel (2006) provides a discussion that is pertinent to the current literature review. The article explains the historical background of the United States government initiative on the disaster-resistant university program. Details on the establishment and funding of the program as well as United States institutions that participated are discussed. Of particular interest to the current research is the fact that Tulane University in New Orleans, Louisiana was a participant in the program at the beginning of the 21st century. The university, which is part of the current study, is therefore considered for additional solicitation of information to augment the questionnaire because of the

designation in the program. An interesting facet of this article is the explanation on different implementation methods that various universities employed. In essence, Yemaiel provides the researcher with concrete material to further delve into the current research topic.

Risk reduction and emergency preparedness activities of Canadian universities.

International Journal of Mass Emergencies and Disasters, 24(2), 223-249.

Friesen and Bell (2006) conducted a survey on emergency preparedness. The sampling consisted of approximately fifty-four institutions in Canada. The response rate according to the authors was forty percent. This study is important to the current research because the authors addressed the NFPA standards from the year 2000 version. Many of the areas that the current research seeks to evaluate and generate an index for were pivotal in the authors' discussion and consequent analysis. Although the sampling population of the study does not specifically address hurricane emergency preparedness, it does articulate the needs of planning. The researcher did not have access to the actual survey, but she may opt to request the instrument from the authors at a later date for the purpose of comparative analysis.

CHAPTER III

METHODOLOGY

Overview

The research consisted of two distinct phases. The first phase of the study included qualitative and quantitative methods. The first phase of obtaining the hurricane emergency preparedness plans of four institutions of higher learning located in the Gulf South region of the United States of America which is prone to hurricanes was to do a content analysis. The second phase of the research study consisted of interviewing authorities at the universities in Alabama, Louisiana and Mississippi.

Research Design

The research study consisted of two phases, which were chronologically pursued. The first segment of the study consisted of obtaining the hurricane emergency preparedness plans from institutions that are located in the United States geographical regions that are subject to hurricanes: Alabama, Louisiana and Mississippi. The institutional hurricane emergency preparedness plans of the University of New Orleans, the University of South Alabama, the University of Southern Mississippi and Tulane University, were retrieved from the universities' websites. The researcher constructed a basic content analysis of the universities' hurricane emergency preparedness plans based on Krippendorff (2004). The analysis was based on a rubric that utilized portions of National Fire Protection Association (NFPA) directive *1600* (2007) and the NIMS guidelines. NFPA *1600* was a legitimate choice to base the construction of a rubric because the directive "has been recommended or endorsed by professional entities" (McEntire, 2007, p. 298). Experts in the use of the content analysis method describe the quantitative attributes, in contrast to the qualitative, as those "which are systematic and

replicable” (Rife, Lacy, & Fico, 1998, p. 20). Rife et al. further explain that the differentiation is visible through use of “numeric values” (p. 25).

Moreover, utilization of the National Incident Management System (NIMS) framework (2008) and National Fire Protection Association (NFPA) directive 1600 (2007) aided the process of generating the variables for those that specifically addressed the focus of the research study. Design of the rubric led to coding of the data into the statistical software program SPSS, version 16. The purpose of the data entry was for quantification of variables relating to hurricane emergency preparedness. Another purpose of the researcher was the generation of output that would permit the researcher to examine the frequency distributions of the variables that existed within the body of each university’s hurricane emergency preparedness plan. The study wanted to compare and contrast the frequency distributions to determine whether a pattern was discernible. The researcher also scrutinized the output results for discernment of any possible correlations.

The major phase of the research consisted of interviewing of select authorities from the universities that comprised the sampling. The interview sessions were conducted via telephone and in person by the researcher. The questions for the research study addressed the following: a) institutional authorities’ policy-making practices, b) decision-making processes, c) planning, and d) implementation standards of the hurricane emergency preparedness plans. To reiterate, the major objective of the interview sessions was to acquire an understanding of the infrastructure that is responsible for the creation, maintenance and dissemination of the universities’ plans and to determine the relationship, if any, of Hurricanes Katrina to the institutions’ hurricane emergency preparedness plans.

Upon completion of the interviews, the researcher transcribed the raw data and subsequently constructed a table of a data matrix (Nadin & Cassell, 2004). The data matrix includes information from the open-ended questions as well as any other information relevant to the research, offered by the participant. After reviewing the data, the researcher analyzed the responses for patterns. Interpretation evolved based on the responses of the interviewees and the data from the first phase to ascertain whether consistencies or inconsistencies existed.

The variables were:

1. institutional authorities' roles in hurricane emergency preparedness policy-making
2. the participants' awareness of hurricane emergency preparedness plans
3. participation in the creation of hurricane emergency plans, responsibilities of participants for implementations of the plans
4. existence of inter-local agreements, universities governing boards' requirements for administrators and other institutional authorities
5. liaisons with local, state and or federal assisting agencies, such as the Federal Emergency Management Agency, and the Mississippi Emergency Management Agency.

For the first part of the study that consisted of a simple content analysis based on a rubric, in which the hurricane emergency preparedness plans of the universities previously listed were entered into SPSS, status variables consisting of location, type of institution and the year that the plans went into effect were added. For the main phase of the research study, besides the variables identified earlier and those status variables just listed, the list of status variables increased to include gender and race.

An ancillary goal of the research design was to create measures from the plans and personnel's responses in order to build a scale that shows institutional authorities' level of active participation and awareness in the decision-making and policy formulation processes. A scale serves as an educational tool, an assessment vehicle and a budget enhancer. The findings provided answer to the researcher on whether or not cohesive, comprehensive contingencies to deal with catastrophes are the standard protocols at colleges and universities. The research findings' intent was also to help institutions implement preparedness by minimizing disruption of operations and summarily assisting in the primary purpose of the institutions, namely, to educate the students.

Participants

Participants for the study, as mentioned in the previous section, consisted of safety officers (to include chiefs of police or individuals in comparable positions) and preparedness directors. Specifically, the sampling of the population was drawn from the following universities: University of New Orleans, University of South Alabama, The University of Southern Mississippi and Tulane University.

The participants in the study were representative of both public and private institutions. The selection was made because of the geographical location of the universities.

Instrumentation

The instrumentation for the first phase of the research study consisted of a simple content analysis of the institutions of higher learning hurricane emergency preparedness plans. Utilizing a rubric (see Appendix A) developed from portions of NFPA 1600 and NIMS, the researcher selected general areas as a foundation of inquiry. The data were coded into the statistical software program SPSS, version 16. Subsequently, the

researcher generated descriptive statistics with frequency distributions. The output contributed to the basis of the development of the semi-structured questions for the main phase of the study, the interviewing of the institutional authorities. The oral interview of the participants consisted of semi-structured interviews that lasted approximately thirty minutes each.

Procedures

The procedures for the research study were multi-faceted. The data were collected in the following ways. The hurricane emergency preparedness plans for the first phase of data collection consisted of extraction of the plans from the websites of the universities on the Internet. Prior consent was not required since the plans were public information. The sources of each individual university's plan are listed in Appendix D.

For the second phase of the research study, the researcher's letter of introduction was sent to the potential participant, which explained the major objectives of the research study (See Appendix C). Besides the introductory letter, the researcher also provided a consent form. After reviewing affirmative responses to the requests for participation, telephone and/or electronic contact was made to confirm a specific date and time for the interviews. After the interviews, manual transcription of the interview sessions occurred. Upon completion of the data collection, interview responses were reviewed repeatedly. As Fontana and Frey (2005) guided, the interviews were "unstructured," but the researcher possessed a standard set of questions to assist in the dialogue (p. 705).

Limitations

A number of limitations require acknowledgment. First is the concern of the introduction of bias into the study because of the random technique utilized to select

participants and universities. Second, the selection of the interviewees may have been arbitrary. Finally, the size of the sampling may have been insufficient to minimize error.

CHAPTER IV

RESULTS

Introduction

The topic of the research study was policy processes of hurricane emergency preparedness planning at institutions of higher learning, post Hurricane Katrina. The focus of the study was on universities and colleges in the Gulf South region of the United States of America. The research and analysis consisted of the collection and examination of data from four subject universities. The sampled institutions were located in the states of Alabama, Louisiana and Mississippi. The main phase of the research study was qualitative and consisted of semi-structured interviewing of participants chosen from the universities.

The main research questions were:

- Do institutional authorities administering hurricane emergency preparedness plans have proactive roles in the decision-making and policy processes of their university's plan development?
- Are the current plans the result of Hurricane Katrina affecting the institution and products of actions taken post hurricane season 2005?
- Are the plans mandated by the National Incident Management System (2008)?

Secondary research questions were:

- Are the participants' hurricane emergency preparedness plans the plans that existed before Hurricane Katrina and have only undergone revision to comply with government requirements?

- Do key personnel, who administer the plans, participate in the policy-making process?
- Are the universities developing different hurricane emergency preparedness plans from pre-Katrina, to adhere to local, state or national guidelines?

The research design for the study consisted of two phases. The first phase of the research design had a qualitative component and a quantitative component. Four sets of hurricane emergency preparedness plans that were extracted from the websites of the universities were included in the phase. One set of hurricane emergency preparedness plans was from the University of South Alabama. Another set of plans was from the University of Southern Mississippi. Two sets of plans were from universities in the State of Louisiana: the University of New Orleans and Tulane University.

The qualitative component consisted of simple readings of the hurricane emergency preparedness plans. The investigation used a rubric (See Appendix A) that the researcher created from parts of the NFPA *1600* (2007) guidelines and U.S. NIMS (2008). The rubric's purpose was comparison of elements of the plans.

The rubric information that resulted from the readings of the hurricane emergency preparedness plans was used as a simple content analysis. The facts were then entered into SPSS. The purpose of the entry of the simple content analysis facts, into statistical form, was for the generation of a simple frequency distribution.

The researcher used the frequency distribution as a visual tool to help in analysis of the hurricane emergency preparedness plans. In addition, the frequency distribution helped the researcher compose the questions for the interviews for the second phase of the investigation. The resulting questions were written in a survey format to aid the researcher in the semi-structured interviewing of individuals. The individuals selected for

the second phase of the study were employees at the universities previously listed. Each individual was in a job whose position was related to safety and/or risk management. Four participants were interviewed. Three interviews were conducted by telephone and one interview was conducted in person.

Results of Phase I

The seven items of the rubric assisted the researcher to perform the simple content analysis of the hurricane emergency preparedness plans. Each item from the rubric was entered as a variable. The information from each subject university's hurricane emergency preparedness plans was arbitrarily designated as observation one, two, three and four. The results, in statistical form, required refinement to assist with the analysis. Therefore, the results were used to produce output that the researcher could better utilize for the second phase of the investigation.

The output, which was produced in the statistical software program SPSS, was a simple frequency distribution. The results of the content analysis demonstrate that the researcher found that all the universities' hurricane emergency preparedness plans contain the seven elements of the rubric.

Table 1

Frequencies of Variables from Rubric

Variable	Frequency
Monitoring	4
Incident	4
External Groups	4
Internal Groups	4
Responsibilities	4
Communications	4
Alternate Ops	4

After examination of the results, the researcher decided to increase the number of items of the original rubric to aid in more analysis of the findings. The decision was also based on the fact that initial readings of the hurricane emergency preparedness plans had shown the researcher that more than one set of hurricane emergency preparedness plans included an additional comparable aspect. As such, the findings of the first phase of the research were expanded to include ten items, instead of the original seven. The researcher followed the same procedures for the expanded content analysis. The three additional items from the hurricane emergency preparedness plans were 1) *student plans*, 2) *review of plans*, and 3) *emergency equipment*. The research findings showed that three of the universities include an element for student plan explanations in their hurricane emergency preparedness plans. The results also showed that two of the institutions have a process for plan review. Lastly, the findings indicate that three of the universities possess

procedures about emergency equipment. Table 2 presents the findings of the expanded content analysis.

Table 2

Frequencies of Variables from Expanded Rubric

Variable	Frequency
Monitoring	4
Incident	4
Student Plan	3
Review Plans	2
External Groups	4
Internal Groups	4
Responsibilities	4
Communications	4
Alternate Ops	4
Emergency equipment	2

Results of Phase II

The interview sessions, which were the second phase of the research, yielded interesting findings. The presentation of the results consists of three sections. The first section contains the results from the answers of the questions from the individual participants. To protect the confidentiality and the anonymity of the participants, inclusion of each participant's actual title is deliberately omitted. The researcher, for the purpose of the presentation of the findings, labeled each participant with a letter of the alphabet. The designation was without any other motive. The designations were *A*, *B*, *C* and *D*. The information is in narrative form. The second section of the findings presents a summary of demographical information about the institutions that the participants are currently employed. The information is presented in a table. The third section of the

results represents the collective participants' responses to questions that specifically addressed the researcher's major and secondary research questions. The information is presented in a simple data matrix.

Participant A

Participant A is from a private four-year institution. The individual is a Caucasian male in the age group of forty to fifty years old. The participant's educational and professional background is from the field of engineering. Participant A, at the time of the interview, had been employed at the institution for approximately one and a half years. Participant A previously was employed, in a similar capacity, with the private sector. The participant briefly discussed the differences that exist in private industry and the academic community with regards to emergency preparedness procedures. The participant noted that in private industry individuals conform somewhat more readily when issued a directive. Participant A mentioned "strict compliance in the corporate world." The participant said that during a recent event the campus was ordered closed; however, individuals opted to disregard the closure. The researcher asked if there was a penalty for failing to abide by the closure. Participant A said that individuals were removed from the campus, but he added that there was no penalty per se.

The interview had questions about the physical infrastructure. According to Participant A, the institution of higher learning that the participant works at is categorized as a metropolitan-area campus. In addition, when asked if there were residential facilities at the university, Participant A said that there was on-campus housing. The researcher also asked the participant to estimate the proportion of students that live on campus. Participant A indicated that approximately fifty percent of the student population resides on campus.

The interview, in one part, sought to gauge whether colleges participate in any inter-local agreements with other institutions of higher learning. Participant A stated that the university has an inter-local agreement with a university that is out of state. For the purpose of hurricane emergency preparedness planning, the agreement is the only official one with another college. The purpose of the agreement is to transport students residing on campus away from the metropolitan campus in the event of an evacuation caused by a natural disaster. The participant, however, stated that the institution does collaborate with other entities. One example the participant provided was that the participant works with the local emergency planning commission.

During the interview, the researcher asked the participant about the hurricane emergency preparedness plans that were currently used by the institution. Participant A said that he “wrote the current plan.” One query asked about the date of the “original” hurricane emergency preparedness plans, which had been in effect at the time of Hurricane Katrina. Participant A believed that they had been in existence circa 2002. When asked about evaluation and or reevaluation of plans post Hurricane Katrina, the participant affirmed that the institutional plans had in fact undergone revisions. Likewise, when the researcher inquired about periodic reevaluations, the participant again replied that reevaluation of the hurricane emergency preparedness plans is continual. The participant’s affirmative response to hurricane emergency preparedness plan reevaluation was emphasized when he said that continuous improvement is an ongoing process. According to Participant A, a key change that was included in the current plan was a requirement that each department have a plan. In particular, the participant added that specialized campus units were required to have detailed planning to make sure that all unit heads can identify critical research and consequently protect it appropriately.

A series of interview questions focused on institutional training procedures. Participant A replied that the training of faculty and staff was periodically evaluated and/or reevaluated. He added that he does training and formal presentations. Emergency procedures in general were evaluated regularly. A specific question on review of evacuation procedures received the response that the procedures were also evaluated.

The researcher, as one will recall from one of the main research questions, wished to determine if institutional authorities administering the hurricane emergency preparedness plans had proactive roles in the decision-making and policy processes of their university's plan development. When queried about preparedness policies and whether the participant had an active role, the participant answered yes. Another question asked about the authority to activate the plan. The participant responded positively when asked whether or not he had the authority to activate the plan. The interviewer asked the procedure should the participant be unavailable during an incident. The participant replied that an alternate from the office of the college president is designated to assume the participant's role. The participant also added that he makes recommendations to the college president about the plans. The interviewer asked if there was an institutional governing board or comparable entity that established requirements for a hurricane emergency preparedness plan. Participant A said that the institution's governing board did establish requirements for a preparedness plan. During a part of the discussion that addressed institutional autonomy, Participant A explained that the plan had been activated during Hurricane Gustav. Although the locale where the university is located opted not to implement mandatory evacuations, the participant said that the college makes their own decision.

One of the main research questions asked if the hurricane emergency preparedness plans are mandated by the U.S. National Incident Management System (2008). Participant A did not say that there was a mandate. However, he said that there were “big areas of improvement [which] was set up with NIMS/ICS for operations.” From the responses of the interview, NFPA 1600 received minimal mention.

The researcher, during the interview, included a question about the biggest reevaluation post Hurricane Katrina. The participant said that “the biggest reevaluation had to do with information backup of data.” Participant A explained that an outside company backs up the information data now. He elaborated by saying that there is a rollover of the university website so that the website will be functional during a disaster. Participant A, during the interview, also spoke about the institution’s power capabilities. According to the participant, the university has a power plant system that is capable of powering a third of the university’s buildings. Participant A also said that since Hurricane Katrina, the institution had been the recipient of different types of governmental funding for the purpose of mitigation initiatives. One example of a mitigation initiative that Participant A provided was elevating utilities from a lower level of the library to the fourth floor of the library, for which the institution received more than twenty million dollars.

The researcher asked whether the hurricane emergency preparedness plan that is available on the university’s website and publicly accessible, is the entire plan. Participant A replied that the total plan is not available to the general public. Key people at the university have access to the much more detailed hurricane emergency preparedness plan. The researcher asked why the entire plan is not available online and the participant gave one reason for a limitation of public access. Participant A offered

that it is because individuals' personal telephone numbers and contact information is included in the complete plan. Therefore, there are confidentiality and privacy issues that preclude full access of the hurricane emergency preparedness plan.

Participant B

Participant B is employed at a public four-year institution. The participant administers operations for a specific locale of the university. The individual is a Caucasian male in the age group of forty to fifty years old. The participant's educational and professional background is from the field of finance and planning. Participant B, at the time of the interview, had been employed at the institution for approximately fourteen years. The participant explained that he had served in various capacities at the university but had occupied the current position for approximately five years.

The interview had questions that focused on the physical infrastructure of the university. The institution of higher learning that the participant works at, according to Participant B's response, is a coastal, non-metropolitan site. Participant B also replied that the institution is a multi-campus college. In addition, when asked if there were residential facilities at the university, he answered that there was no on-campus housing at the site that he is located at. Participant B further explained that it is a commuter campus; however, he did indicate that there is a resident student population at the main campus of the university.

During the interview, the researcher asked whether the institution participates in any inter-local agreements with other institutions of higher learning. Participant B stated that "the university as a whole" has inter-local agreements through the state educational governing board. Specifics were not addressed. Instead, Participant B opted to emphasize

liaisons with local and federal emergency management entities. Similarly, the participant said that there is rapport with county officials and organizations.

A number of questions the researcher asked the participant were about the hurricane emergency preparedness plans that were currently used by the institution. Participant B said that the current plan had been recently revised during the last year. With regards to the hurricane emergency preparedness plans, which had been in effect at the time of Hurricane Katrina, the participant explained the strengths and weaknesses of the previous plans. He explained that the magnitude of Hurricane Katrina were too much for the plan that was in use at the time. When asked about evaluation and/or reevaluation of plans post Hurricane Katrina, the participant affirmed that the hurricane emergency preparedness plans had been impacted by Hurricane Katrina. Participant B also answered that the current plans are reviewed and revised regularly.

A series of interview questions focused on institutional training procedures. Participant B said that training of faculty and staff occurs at least once a year. The participant, at the time of the interview, said that he did not have full-time personnel attached to the unit. Participant B added though that many tasks associated with the hurricane emergency preparedness planning and consequently the implementation, if activated, is within the purview of responsibilities of the physical plant staff. Coordination and collaboration with other institutional entities is therefore ongoing. Similarly, Participant B reiterated that the campus acts with the “university as a whole.”

One of the main research questions asked if the institution’s hurricane emergency preparedness plans are mandated by the U.S National Incident Management System (2008). Participant B said, “NIMS is especially helpful.” The participant added that ICS is a good example of a resource for planning. According to the participant, NFPA 1600

does not have an impact per se. However, Participant B did not indicate the existence of a mandate for a specific framework or guideline.

Another main research question wanted to find out if institutional authorities administering the hurricane emergency preparedness plans had proactive roles in the decision-making and policy processes of their university's plan development. When Participant B was queried about his role, he answered yes to the question. Participant B also explained that he works in tandem with the associate provost if a need for a policy change arises. When asked a question about the authority to activate the plan, the participant responded that should circumstances warrant, a recommendation is given to the associate provost and the president.

During the interview, Participant B was also asked if a governing board imposes a requirement on the college for hurricane emergency preparedness planning. Participant B did acknowledge that a requirement exists for a plan. The interview session also provided information on recent state level improvements that were implemented to facilitate emergency preparedness in general.

A major area of inquiry of the research was about improvements post Hurricane Katrina. Participant B explained that "rebuilding and redevelopment" had been the major foci since the hurricane. The participant added that with hurricanes, besides flooding, "high winds off the water," posed a threat. The university was, according to the participant, developing plans to have a campus with a higher elevation. The participant expected that the change would minimize the threat of flooding and also protect against severe winds.

Participant C

Participant C is from a public four-year institution. The individual is a Caucasian male in the age group of forty to fifty years old. The participant's educational and professional background is from business and health care management. Participant C, at the time of the interview, had been employed at the institution for over a decade. The participant is employed at an institution that is situated in a coastal city. The university has multiple campus sites. The main site is categorized as a commuter campus but is, according to the participant, converting to a semi-residential type institution. One of the campus sites is in a downtown area, while the main site is located sufficiently inland.

A series of questions asked about the institutional hurricane emergency preparedness plans. Participant C said that the plans were dated from the year 2000-2001. Since that time, approximately seventeen revisions had been approved. The participant also talked about the trustees and upper management of the institution as well as the annual review process. The institution has area specific plans to meet different needs. With regards to activation of the plan, the participant makes recommendations to the president. Participant C explained that travel for training is funded. Similarly, equipment requests during his tenure have been met. Personnel have cell phones and there is hazmat certification.

During the interview, when asked about training, the participant explained that it depends on the area. The participant also answered that training is provided to new staff during orientation. In addition, department specific training is provided on request. The participant is, according to comments during the interview, an active trainer of institutional personnel.

One of the questions asked the participant about inter-local agreements. The response was that the university does have agreements. The participant discussed agreements that exist between various government bodies and the university. Participant C also spoke about rapport with the county emergency management entity. When asked for more details, the participant explained that he does participate in state preparedness. One of his roles is that of serving as a point of contact for the state emergency plan. Participant C also discussed the geographical locations of the campuses. For instance, Participant C discussed the locations of the campuses with regards to the one and five hundred year flood plains. He explained that with Hurricane Katrina, flooding was not an issue per se. According to the participant, lightning has more of an impact on the university.

A main research question asked whether NIMS imposed a mandate for the hurricane emergency preparedness plans of the college. Participant C explained that NIMS and NFPA 1600 cross reference each other. The participant elaborated by providing an explanation about “contemporary code, local issues and state issues.” Participant C also spoke briefly about “sovereign immunity.” In addition, the participant offered comments about safety issues in general and spoke about the concept of unified command and ICS.

Participant D

Participant D is from a public four-year institution. The individual is a Caucasian male in the age group of forty five to fifty five years old. The participant’s educational and professional background is from the field of public safety. Participant D, at the time of the interview, had been employed at the institution for approximately ten years. Participant D previously was employed, in a similar capacity, with the public sector.

The participant is the unit head at the main campus of a university.

The interview had questions about the physical infrastructure. When asked if there were residential facilities at the institution of higher learning that the participant works at, Participant D answered that a proportion of students do live on the main campus. The participant elaborated about the different types and ages of the residential facilities. The participant also discussed maintenance and upgrades that were ongoing to ensure student safety. In addition, when asked about power and electrical issues that might arise during a hurricane, the participant explained about the underground system at the university.

One of the main research questions sought to determine if the hurricane emergency preparedness plans were mandated by U.S. NIMS (2008). Participant D explained about the relationship of NFPA 1600 and NIMS on institutional planning. According to the participant, NFPA 1600 is a standard. However, he explained that different geographical areas come under the auspices of different codes. For instance, Participant D mentioned the code structure of Florida. In addition, the participant explained about the International Building Code and made note of how the guidelines have an impact on the institution. Likewise, when asked about NIMS, Participant D explained that there are eight levels of NIMS training that must be met in order to meet applicable government guidelines. Specifically, certain members of the institutional hierarchy meet requirements for level four. The participant, for example, must be at level eight because of his role and duties. One of the reasons that NIMS establishes the requirements is for institutions to receive funding. In addition, the participant explained that there are regularly scheduled training activities that focus on safety. The activities are available for personnel in the unit, as well as for employees in other units.

Another main research question asked if institutional authorities who administer the hurricane emergency preparedness plans have proactive roles in the decision-making and policy processes of their university's plan development. Participant D's responses verified the proactive role. Further, he explained that the institution had updated plans since Hurricane Katrina. Therefore, the second main research question, which asked if the current plans were products of actions take post Hurricane Katrina, received support in the results. In addition, another revision of plans was scheduled to go into effect in the new year. Further, certain administrative actions of other sites also are centralized at the main campus. As such, support for another secondary research question, which asked if different plans were being developed to adhere to local, state and national guidelines, also may be positively inferred from the interview. When asked about authority to activate the plan, the participant said that recommendations either from him or counterparts at other sites are submitted to the chief academic officer and the president. Another question asked if the state governing board could declare an emergency. Participant D said that the board had authority to declare an emergency at one or all state institutions.

Summary

To briefly summarize the findings of the second phase of the research, the following information is provided. The participants of the sampling drawn from the population for the interview phase were all males. With regards to the status variable question inquiring about each one's race, all of the participants of the research study identified themselves as Caucasian or White. The participants' ages had a range that spanned forty years to fifty five years. The participants were not queried for their nationality or denomination. However, the interviewer observed from the conversational speech patterns that each of the participants of the second phase of the study was a native

English speaker. With regards to the hierarchy at each respective university, from which participants were sampled, each participant is the organizational authority of the unit each is attached to contemporarily.

Collectively, the participants' identification of their professional experiences was diverse. The participants said that they had work experiences originating in either the public sector or the private sector. Specifically, according to the responses provided, the participants had education and experience in academia, engineering, fire, finance, hospitals and facilities management and the petroleum industry. Of the participants sampled, none had an academic degree in any field of emergency management. Another question sought information about the participants' length of employment at the institutions of higher learning of which they currently are affiliated with. The responses ranged from one and a half years to over twenty years. Three of the four participants of the interview phase of the research said that they were employed at the university or college, which is the location of their current position, at the time of Hurricane Katrina. One of the participants was not employed at a university during the time of Hurricane Katrina.

Table 3 is a summary of some of the demographic responses that the participants provided during the interviews.

Table 3

Demographics

Universities Demographic Information	Frequency
Public	2
Private	1
Metropolitan	1
Non-Metropolitan	2
Student Population	
Residential	1
Commuter	1
Transitioning	1
Inter-local agreements	
Yes	2
No	1

The two participants of the interview phase, who identified their institution as non-metropolitan, qualified the responses by identifying the universities as coastal and or non-urban. In addition, all of the participants explained that their respective institution had multiple and/or dual locations in different areas of the state. Further, the institution whose participant's response is categorized as residential estimated that the institution has approximately fifty percent of the population residing on site. The individual of the

sampling that designated the institution as commuter type explained that the campus would remain non-residential.

The table below combines information from all of the participants and is presented as a way to easily compare some of the interview question responses.

Table 4

Data Matrix of Results of Participant Interviews

	Participant A	Participant B	Participant C	Participant D
NIMS	yes	yes	yes	yes
Re-evaluate plan	yes	yes	yes	yes
Staff Training	yes	yes	yes	yes
Policy-Making	yes	yes	yes	yes
Decision To Activate	yes	yes	yes	yes

The National Incident Management System (NIMS), according to all of the participants interviewed, did play a role in hurricane emergency preparedness planning of their institution Post Hurricane Katrina. In addition, all participants affirmed that the role was of a positive type. The system, one participant stressed, facilitated training. Another participant of the investigation discussed the strength of the structure for coordination of all types of incidents. When the sampling was queried about NFPA 1600, the directive received little commentary from any of the respondents, although they knew about it. Instead, ICS was mentioned by the majority of the sampling.

Recollecting the research questions, the findings from the participants affirm that the hurricane emergency preparedness plans of their respective institutions had been re-evaluated post Hurricane Katrina. Of the participants sampled, all responded affirmatively when asked about training of staff and additional institutional personnel. Training occurred at minimum one time per annum. However, two of the participants of the sampling indicated being the only staff in their respective unit. In contrast, two participants had a staff. One said he had seven people working in the unit, but the scope of unit responsibilities and or tasks had a different model. Another participant had various staff members, but the unit was also responsible for numerous safety issues. The research question that asked whether participants possessed an active role in the policy aspects of planning for hurricane emergency preparedness for the respective institutions was confirmed by all.

With regards to the interview question that focused on whether there were hurricane emergency preparedness requirements established by an institutional or state governing board, the majority of participants responded that there was a requirement. The final subgroup of variables emphasized authority to activate the hurricane emergency preparedness plans. The sampling findings indicate that all have the authority to do so, but each qualified the response by stating that a recommendation to do so either included submission to the “president” or “chancellor” or if not at the main campus of the institution, a request to activate proceeded to the primary authority of the location and subsequently to the institutional-wide authority. Each participant did however indicate varying levels of autonomy in the decision-making process.

Ancillary Findings

The researcher, during the interview sessions, received information that did not comprise aspects of either the major research questions or the secondary research questions. The researcher requested permission of the sampling participants that provided the supplemental information to include the previously unconsidered details. The consent was orally given to do so. The first ancillary finding, originating from a response of one of the participants and paraphrased, is the requirement for disaster training and or emergency preparedness which is in the context of, and has a common reference of “the Clery Act” (U.S. Department of Education, Office of Post Secondary Education, 2005). According to one government source, the 1998 U.S. legislation, which is entitled The Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act, has compliance requirements for crimes reporting and campus safety (U.S. Department of Education, Office of Post Secondary Education, 2005).

Another finding that emerged from the research study and which had no direct basis in the original research questions was about the requirements for emergency preparedness that emanates from the SACs requirements. The Southern Association of Colleges and Universities (SACs, 2006), is a regional accrediting association.

CHAPTER V

CONCLUSION AND DISCUSSION

The problem sought a resource that would foster greater awareness of the importance of hurricane emergency preparedness planning at institutions of higher learning. The problem addressed the impact of Hurricane Katrina on hurricane emergency preparedness planning at institutions of higher learning since the disaster struck the Gulf South region of the United States of America in 2005. The problem focused on those individuals at institutions of higher learning who administer the hurricane emergency preparedness planning processes. The problem queried the university authorities for two reasons: a) to comprehend their collective responsibilities and b) to use their experiences to construct more effective policy. The study was designed to collect data from the respective organizations through the interviewing of members of the hierarchy. Participants were selected because of their roles in the decision-making and policy processes associated with the area of inquiry. From the findings of the study, the researcher comprehended that varying levels of decentralization exist.

The research study results did in fact provide the researcher with greater comprehension about the complexities of the processes. To explain, at the beginning of the research, the researcher did not realize the enormity of the tasks that are necessary to create hurricane emergency preparedness plans. Many personnel in different areas of the higher education institutions actively contribute to the planning and implementation processes. Safety is a primary function of the plans, but the requirements to secure academic research and the facilities are also critical to successful planning.

The participants of the second phase of the investigation are, in the opinion of the researcher, experts with vast experiences that facilitate the decision-making and policy processes as a whole. Those who administer the plans must also actively collaborate with very different groups of campus stakeholders; otherwise the plans will be difficult to implement. The results further suggest that from the era referred to as Post Hurricane Katrina, the institutions of higher learning in the Gulf South region that were sampled have been pursuing more effective hurricane emergency preparedness planning. All of the institutions were impacted by Hurricane Katrina in some way, but three experienced tremendous losses. Three of the institutions are still in some phase of recovery and rebuilding because of the severity of the impact on the institution. Numerous improvements, as Chapter IV presented, have been made since Hurricane Katrina. To elaborate, information backup systems have been refined. Power sources and plants have been or are in the process of being relocated to ensure continued operations should another incident affect the college. Similarly, greater emphasis of securing academic research has imposed requirements on research and academic units to be better prepared. The universities with multiple sites have hurricane emergency preparedness plans that meet the specific needs of the specialized units. Another improvement is the decision by one of the institutions to establish a locale further inland so as to minimize flooding and wind damage.

The findings of the first phase of the research illustrated that all the universities of the sampling do possess hurricane emergency preparedness plans. The results that were presented in Chapter IV demonstrate that there are commonalities in the plans. Each plan has the seven original areas of the rubric in their institutional hurricane emergency preparedness plan. Since all the plans are comparable, one can infer that NFPA 1600 and

the NIMS guidelines do contribute to plan development. Therefore, the third main research question does receive support from the simple content analysis.

Expansion of the rubric in the first phase of the study to include three additional variables was worthwhile. The reason became apparent after the second phase of the study during analysis of the findings. The researcher was able to conclude that the three additional items are advantageous and necessary to the institutions that included them. To explain, universities that have resident student populations must plan more extensively for an incident than an institution that is a commuter college. Likewise, a university that has been through a natural disaster possesses a greater need for articulation of a plan review within the plans themselves. Institutional experiences directly affect the development of hurricane emergency preparedness plans. The infrastructure of a research type institution or of an institution that predominantly is a teaching site, as comments throughout the interviews suggested, manifest themselves differently. As all participants explained, dependent on the locale and the mission of the respective organizational entity or unit, additional specific plans must exist to address the college's needs. As such, the results of the study suggest that the generation of an index or measure that is applicable in all circumstances can only consist of a basic framework comparable to the researcher's rubric. Institutional needs are different. A commuter campus does not require an inter-local agreement for transport of resident students. In contrast, a campus with a resident population has to articulate definitive procedures for student evacuation. A campus geographically situated in an area that experiences lightning strikes needs emergency equipment plans to address potential fire hazards.

The size of the sampling precludes the researcher from asserting that the results may be generalized to include all public and private institutions of the United States of

America. However, the researcher contends that the results indicate a pattern of consistency among universities that are near coastal areas in the Gulf region. The demographic findings that resulted from the interviews highlight that the diverse composition of the institutions contribute to hurricane emergency preparedness planning. The findings also affirm that institutions of higher learning, contingent upon the mission of the institution, also possess different infrastructure requirements.

The final demographic inquiry that queried the existence of inter-local agreements had results that require several comments. The segment of the sampling population that indicated existence of a formal agreement, as the participant explained, is the result of a certain need at the institution. The analysis of the responses therefore necessitates qualification of the negative responses. As stated previously, different universities have different needs. Although the results may not be applicable to the whole because the need is absent from some of the sampling, the results are still valid. To explain, all participants discussed “informal” agreements as well their own individual roles with local, county or state level entities. One of the secondary research questions wanted to know if the universities are developing different hurricane emergency preparedness plans to adhere to local, state or national guidelines. Adherence is too narrow of a word to describe the positive relationships that exist among the different groups. All are working together for the same purpose, namely, the safety and protection of the populations that each serves. Therefore, there is an affirmative correlation to that secondary research question.

The findings presented in the data matrix also provide support for the research question that asked if key personnel who administer the plans have proactive roles in the decision-making and policy processes of their universities’ hurricane emergency preparedness planning. All the participants of the second phase are undeniably active in

the processes. Furthermore, the main research question, which asked if Hurricane Katrina impacted the evolution of the hurricane emergency preparedness plans, received support. Besides the content analysis of phase one of the study verifying the proposition, the sampling of phase two of the study also acknowledged increased emphasis since Hurricane Katrina. Consequently, each of the hurricane emergency preparedness plans from the four institutions of higher learning is labeled with the date of the current plan. All are dated later than 2005. Thus, the documents and the responses of the participants of the study attest to the validity of the portion of the research question that queries if the plans were products of actions take post Hurricane season 2005.

The last portion of the major research question asked if the plans were mandated by NIMS. Once again, all of the participants of the main phase of the inquiry acknowledge the emphasis on preparedness that NIMS requires. Semantically, usage of the term mandate may have been too forceful. NIMS provides structure but also allows for differing levels of autonomy. One may, however, interpret the finding as a demonstration of the national government's pursuit of greater planning and coordination for emergencies since the devastation of Hurricane Katrina.

The secondary question about plan revision and compliance was redundant. Some aspects of the plans according to some of the participants were revised. One participant indicated "writing the current plan" for the institution that the individual is presently at. Yet the fallacy that the researcher failed to realize is that affirmation of all aspects of the major research question would denigrate the need for the first secondary research question. Continuing in the analysis of the variables visible in the data matrix, the results for the responses of the question that queried if key college and university personnel participate in the policy-making process were affirmative from all the participants of the

sampling. Unfortunately, interpretation requires scrutiny which led to the discovery of another weakness that may cast doubt upon the reliability and validity of the results. Explicitly, how does one define “key”? In the Definition of Terms section of Chapter I of the dissertation, the researcher failed to provide a definition for the term. The researcher concludes though that even with a definition, the term was inappropriate because contingent upon perception everyone may or may not be a “key” person and such subjectivity is detrimental to scientific research. Although the sampling queried comprehended the intent of the interviewer, the usage of the term suggests the possibility of error and bias inadvertently being introduced into the study.

The last secondary research question referred to local, state or national guidelines and the plans. The findings delved into the area of state boards and state requirements. Furthermore, as the findings demonstrate, discussions about local requirements also contributed to provision of greater comprehension. The results suggest that public and private institutions in the Gulf South region are comparable with regards to hurricane emergency preparedness planning. Although, according to the interview responses of phase two, a mandate may not exist officially about NIMS, participants did state the national framework of NIMS is important. Therefore, the results from the second phase also provide support to the third main research question.

To conclude, analysis of the results of the research study affirm to the researcher that Hurricane Katrina was a catalyst that caused evaluation of existing hurricane emergency preparedness plans. Institutional authorities, who were participants in the research study, possess active roles in the process of hurricane emergency preparedness planning. Further, national guidelines, whether codified or not, do impact planning. The national guidelines commonly referred to as NIMS and ICS were mentioned by all

participants. NFPA 1600 (2007) was emphasized minimally, if at all, during the total number of interview sessions. A majority of the participants of the second phase of the investigation also discussed the fact that their respective universities were contemporarily still continuing in “recovery” efforts required because of the impact of Hurricane Katrina on their respective universities. A minor proportion of the sampling contributed to the research immeasurably by concisely explaining the hurricane issues that may affect the university or universities of which the participant is a member.

The theoretical framework of Birkland (2006), a “model of event related policy learning,” was presented in the literature review in Chapter II. This model, which was the basis of the premise upon which the researcher based the research questions, received credible evidence of support. The intricacies and details of the institutional hurricane emergency preparedness plans, which comprised the sampling for the content analysis; in conjunction with the results of the interview sessions, both provided specifics. In contrast, Cohen’s Garbage Can Model (Cohen, March, & Olsen, 1972) was denigrated to non-relevance since the researcher’s findings demonstrate that institutional authorities at institutions of higher learning conduct their roles in a systematic fashion, not haphazardly. Each participant demonstrated professionalism and comprehension of the organizational processes requisite for hurricane emergency preparedness planning. Similarly, the entire sampling population eloquently articulated about organizational administrative processes when queried about decision-making and policy processes in the realm of higher education.

Similarly, Kingdon’s (2003) “streams and coupling” model, which was presented in Chapter II, is a model that states that many factors “converge” when decision-making occurs, in contrast to the belief that various issues are thrown together randomly. Years

later in 1984 Kingdon sought to complement the earlier decision-making model by introduction of his policy model that used the term “focusing event” (2003, p. 94). The results of the research study are interpretable to mean that Hurricane Katrina was a “focusing event” (Kingdon, 2003, p. 94) for institutions of higher learning in the Gulf South region of the United States of America.

In conjunction to the theoretical framework of Birkland, a reference to Birnbaum’s (1988) theory of hierarchy in organizations was substantiated by both phases of the research study. Institutional authorities possess different levels of autonomy. The organization structure of universities and colleges permits and encourages collaborative efforts; but from the findings, one may conclude that there is a nonetheless a well-established hierarchy. Conceptualization of disasters setting agendas for policy was borne out by the findings of the research study.

Another theme that was prevalent throughout the literature review was the complexity of hurricane emergency preparedness. The findings of the research reinforce the fact that planning is a continual and exacting “science”, which requires cooperation, collaboration and coordination among and between numerous diverse entities. It is also vital to assert that those authors works included in the literature review and who remind one that natural disasters give one little advance notice, were correct in the declarations. As such, from the findings one is able to pronounce emphatically that institutional authorities in higher education do perpetually perform planning activities to minimize destructive impacts of hurricanes.

Recommendations for Policy or Practice

The results of the findings may be utilized in several ways. The first recommendation is the creation of a model plan that focuses on ease of use. Instead of identifying specifics for a hurricane emergency preparedness plan, the researcher suggests adoption of a plan that is readily implementable by any institutional employee. The plan might contain, at minimum, the seven items of the researcher's rubric. As the research has shown, the plans that exist at the various institutions are lengthy and substantially comprehensive. However, one must access numerous pages of a plan for implementation; either from a computer or from a book(s). Therefore, the model hurricane emergency preparedness plan should be in a compact hand held solar powered device. Whether a safety officer or a staff member, the plan should be concise and transportable. The device should not rely on cell phone technology; but on satellite type capability. During Hurricane Katrina, cell phone towers were vulnerable. Therefore, reliance on the other technology would be less vulnerable. The device should have a preprogrammed application that prompts the viewer through the steps of the hurricane emergency preparedness plan. The software that the U.S. Department of Energy (2007) through Argonne (2009) has created for special populations could be tailored for universities. In addition, the application should be synchronized with other team member devices so that should the need for an alternate to intervene arise, the device will facilitate procedures. The tool could be based on the EPOD system (EPOD, 2009).

A model plan should also be easily accessible to the general university population. Although alert systems that use texting and email are in place at colleges; another layer of preparedness could be achieved by centralized units being strategically placed at campus locations. To explain, mobile units that are for emergencies on some

campuses might be updated to include monitors that provide instructions. Similarly, individuals, who are administrators at institutions of higher learning, may use the results as affirmation that experienced professionals serve their communities. Regardless of official title, the individuals are, by virtue of their responsibilities, practitioners in the field of hurricane emergency preparedness planning. The individuals' competencies and capabilities serve as examples of the importance of systematic planning.

Nevertheless, more effective hurricane emergency preparedness policy for institutions of higher learning can be constructed. However, it is not the institutional authorities that require instruction. The policy initiatives required and that need implementation must be geared to increase awareness of the main stakeholders of the universities and colleges. Specifically, institutional authorities comprehend the importance of awareness. Plans and guidelines abound. Governmental reports and academic research since Hurricane Katrina exists. The scrutiny the hurricane wrought on hurricane emergency preparedness planning is visible to whoever seeks it. Unfortunately, the realization struck the researcher towards the culmination of the second data collection phase that those most vulnerable are still most likely less prepared than satisfactory. It is of course the students, faculty and staff of colleges and universities that require greater exposure to possible incidents and training on the existing procedures to ensure their safety. The research did not focus on this aspect; but the findings prompt the analysis of the major research problem of the study and a conclusion that it is per se problematic since it failed to examine the objective from the opposite end of the spectrum.

Limitations

The rubric and the simple content analysis of the first phase of the investigation were adequate for the comparative purposes of the study. In contrast, the interviewing

tool of the main phase of the research study had several possible flaws. A potential weakness in question number two, which asked the official title of the participant, might have introduced redundancy since the respondents were selected because of their respective position. Perhaps a better follow up to question number one, which asked length of time of the participant with regards to current employment, should have asked the location of the participant, in relation to the institution, at the time of Hurricane Katrina.

In the second section of the semi-structured questions, another possible limitation might exist because of question number eight. The question asked the participants about inter-local agreements. Perhaps the researcher could have strengthened the query by providing a specific definition. Another potential limitation in the primary tool of the research study may be discernible in the third section of semi-structured questions. Question number twelve asked the participant if the individual possessed awareness of the institution's hurricane emergency preparedness plan. As with question number two, a question on possession of awareness of hurricane emergency preparedness plans of the institution that the participant is employed at, was probably unnecessary.

The reliability and validity of the instrumentation is also perhaps debatable because of the manner of delivery of the tool by the researcher. To elaborate, the researcher read about techniques to conduct interviews. Likewise, the researcher practiced questioning techniques. However, the researcher refrained from scheduling actual practice sessions. Simulations of telephonic interviews, with the researcher asking the questions of a volunteer, as a means to discipline oneself with regards to pacing, might have been worthwhile. Lastly, a purposive pretest of the instrumentation might have prompted adjustments that might have potentially improved the reliability and

validity of the instrumentation. Even with the possible limitations though, the researcher believes that the findings have merit.

Recommendations for Future Research

Many areas previously unfamiliar to the researcher encourage one to pursue them. For instance, the ancillary finding that notes the requirements imposed by a regional accrediting agency would be interesting. To explain, a comparative analysis of emergency preparedness requirements required for compliance by region of the United States of America and by an accrediting body; such as SACs would be fascinating. Similarly, a historical examination of the Higher Education Act and the reauthorizations, with regards to emergency preparedness and safety, would expand the findings of the current research study.

In addition, another recommendation for future research, which builds upon the current research study, would consist of a longitudinal study with a sampling size of a minimum of fifty universities. The recommendation for further research is presented since the geographical location of the current research study, although sufficient to pursue the topic, was somewhat narrow. Inclusion of colleges from all United States coastal areas that experience hurricanes, would hopefully aid in the ability to generate generalizations from the research questions. Likewise, a multi-layered content analysis of each institution's hurricane preparedness plans would also be interesting. For instance, using the seven item rubric and the ten item rubric, a researcher could create additional rubrics of fifteen items and twenty items. Thereafter, one could have four standards by which to compare and analyze the plans. A potential vulnerability of such a study however would be if there was one or more catastrophic occurrences comparable to Hurricane Katrina affecting the population.

APPENDIX A

RUBRIC BASED ON NFPA 1600 FOR CODING OF PLANS

1. Monitoring system
2. Incident Activation Procedure(s)
3. Roles of internal groups
4. Roles of external groups
5. Delineation of responsibilities
6. Communications
7. Primary and alternate operations command

APPENDIX B
SEMI-STRUCTURED INTERVIEW QUESTIONS

Greeting:

I would like to start with some introductory questions.

1. How many years have you been at the institution? 1a. _____

2. What is your official title? 1b. _____

3. Is it permissible to include your gender or do you prefer that I not do so?

If yes, 3a. female 3b. male If no, 3c. undeclared

4. Similar to the previous question, may I include your race?

4a. Asian

4b. Black

4b. Caucasian

4d. Hispanic

4e. Native American

4f. Other

5. The last status variable refers to age. Would you be willing to state it?

If yes, 5a. _____ If no, 5b. unidentified

The next part of the interview addresses questions about your universities.

6. How is your universities categorized?

6a. metropolitan area

6b. non-metropolitan area

7. Does the majority of your student population reside on campus?

7a. yes

7b. no

8. Does your universities participate in inter-local agreements?

8a. yes

8b. no

9. If 8a was the response, with whom do you have inter-local agreements?

9a. _____

17. Do you actively participate in the policy-making process for hurricane emergency preparedness?

17a. yes

17b. no

18. Did you participate in the creation of the hurricane emergency plans at your institution?

18a. yes

18b. no

19. When were the plans that are currently in place created? _____

20. What responsibilities do you have for implementation of the plan?

21. Does the governing board of your institution establish requirements for hurricane preparedness planning?

21a. yes

21b. no

If 21 is yes, what are the requirements? 22. _____

22. Do you have the authority to decide when to activate the plan?

22a. yes

22b. no

23. Is the plan that is available on the website the entire plan?

23a. yes

23b. no

If 23 is no, do a follow up!

I would like to conclude with several questions.

During the approximately four years since Hurricane Katrina, has there been in your opinion sufficient time to address any concerns about the plans or do you believe that more needs to be done?

How much more time would you need?

Is there a reason such as money or bureaucratic complexity that has caused the delay?

If you are unavailable and a hurricane approaches, is there an alternate?

Do you know how much it costs to have a plan or is money not relevant?

APPENDIX C
LETTER OF INTRODUCTION

Dear Director

I am a student at The University of Southern Mississippi in Hattiesburg, Mississippi. I am conducting research for my dissertation to complete my doctoral degree in higher education administration. The area of study is hurricane emergency preparedness. The purpose of the research is an examination of hurricane emergency preparedness planning since Hurricane Katrina.

I am requesting the opportunity to interview you for my research. Should you be willing to participate in either a telephonic interview or an interview at your campus, I shall contact you upon receiving permission from the institutional research board.

If you would like more details about the study, I would be delighted to call you.

Thank you!

Caterina Gulli Ventura 601-266-4972 or 601-270-8393
The University of Southern Mississippi

**If you wish to verify the legitimacy of the request,
please contact the chair of my committee:**

**Dr. W. Lee Pierce
The University of Southern Mississippi
The College of Education and Psychology
118 College Drive #5023
Hattiesburg, Mississippi
39406-0001**

Or

**Chief Bob Hopkins
The University of Southern Mississippi
Campus Police**

APPENDIX D

WEB ADDRESSES OF HURRICANE EMERGENCY PREPAREDNESS PLANS AND
EMERGENCY PLANS

The University of New Orleans

<http://ehso.uno.edu/emergency/>

The University of South Alabama

<http://www.southalabama.edu/environmental/erplan.pdf>

The University of Southern Mississippi

http://www.usm.edu/gulfcoast/files/Emergency_Ops_Plan_Oct2008.pdf

Tulane University

<http://tulane.edu/emergency/preparedness/index.cfm>

APPENDIX E

IRB APPROVAL



THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board

118 College Drive #5147
 Hattiesburg, MS 39406-0001
 Tel: 601.266.6820
 Fax: 601.266.5509
 www.usm.edu/irb

**HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
 NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
 Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **29061101**

PROJECT TITLE: **An Examination of Hurricane Emergency Preparedness Planning at Institutions of Higher Learning of the Gulf South Region Post Hurricane Katrina**

PROPOSED PROJECT DATES: **04/15/09 to 10/09/09**

PROJECT TYPE: **Dissertation or Thesis**

PRINCIPAL INVESTIGATORS: **Caterina Gulli Ventura**

COLLEGE/DIVISION: **College of Education & Psychology**

DEPARTMENT: **Educational Leadership & Research**

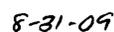
FUNDING AGENCY: **N/A**

HSPRC COMMITTEE ACTION: **Expedited Review Approval**

PERIOD OF APPROVAL: **08/27/09 to 08/26/10**



 Lawrence A. Hosman, Ph.D.
 HSPRC Chair



 8-31-09
 Date

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