8-2015

An Exposition of Social Vulnerability, Inequality and Disaster Management: Revisiting Hurricane Katrina

Elizabeth A. Hughes

Follow this and additional works at: http://digitalcommons.apus.edu/theses

Part of the Emergency and Disaster Management Commons

APUS Library Capstone Submission Form

This capstone has been approved for submission to and review and publication by the APUS Library.

Student Name	Hughes	Elizabeth	A
Course Number	EDMG699	**Paper Date**	May 2016
Professor Name	Cuthbert, Randall Dr.		
Program Name * See list	Emergency and Disaster Management		
Keywords [250 character max.]	Hurricane Katrina, Katrina, Social vulnerability, Social inequity, Inequality		
Passed with Distinction * Y or N	Y		
Security Sensitive Information * Y or N	N		
IRB Review Required * Y or N	N	If YES, include IRB documents in submission attachments.	
Turnitin Check * Y or N	Y	All capstone papers must be checked via Turnitin.	

* Required

Capstone Approval Document

The thesis/capstone for the master's degree submitted by the student listed (above) under this title *

> AN EXPOSITION OF SOCIAL VULNERABILITY, INEQUALITY AND DISASTER MANAGEMENT: REVISITING
>
> HURRICANE KATRINA

has been read by the undersigned. It is hereby recommended for acceptance by the faculty with credit to the amount of 3 semester hours.

Program Representatives	Signatures	Date (mm/dd/yyyy)
Signed, 1st Reader * [capstone professor]	*Randall G. Cuthbert*	05/25/2016
Signed, 2nd Reader (if required by program)		
Recommendation accepted on behalf of the program director *	*Terri L. Wilkin*	5/26/2016
Approved by academic dean *	Digitally signed by mriccardi@apus.edu DN: cn=mriccardi@apus.edu Date: 2016.09.05 19:20:40 -06'00'	

* Required

AN EXPOSITION OF SOCIAL VULNERABILITY, INEQUALITY AND DISASTER

MANAGEMENT: REVISITING HURRICANE KATRINA

A Master's Thesis

Submitted to the Faculty

of

American Military University

by

Elizabeth A. Hughes

In Partial Fulfillment of the

Requirement for the Degree

of

Master of Arts

May 2016

American Military University

Charles Town, WV

The author hereby grants the American Public University System the right to display these contents for educational purposes.

The author assumes total responsibility for meeting the requirements set by United States copyright law for the inclusion of any materials that are not the author's creation of in the public domain.

DEDICATION

I dedicate this thesis to my mother and father, whose constant love, support, encouragement and engrained discipline helped me reach this momentous goal. As well, this thesis is dedicated to the victims and survivors of Hurricane Katrina who suffered in ways unimaginable. May we all join together to protect the socially vulnerable and ensure this type of tragedy never occurs again.

ABSTRACT OF THE THESIS

AN EXPOSITION OF SOCIAL VULNERABILITY, INEQUALITY AND DISASTER

MANAGEMENT: REVISITING HURRICANE KATRINA

by

Elizabeth A. Hughes

American Public University System, May 22, 2016

Charles Town, West Virginia

Professor Dr. Randall Cuthbert

Socially vulnerable populations suffer greater losses and have more difficulties

recovering when disasters occur. Hurricane Katrina, systems of social inequity, as well as

the governments' preparedness and response failures turned a natural disaster into a

social catastrophe. This research seeks to understand the challenges faced by the elderly,

impoverished, disabled, and minority communities before a disaster strikes so as to

identify the means required by emergency planners to develop more effective and

inclusive emergency operations plans. Hurricane Katrina exposed government failures at every level of mitigation, preparedness, response and recovery. These critical flaws must be addressed so as to prevent similar catastrophic outcomes. The concluding section addresses recommendations the emergency management and disaster planning community must take to assist and protect special needs residents. Developing solutions and reducing gaps in emergency planning will save lives.

TABLE OF CONTENTS

An Exposition of Social Vulnerability, Inequality and Disaster

Management: Revisiting Hurricane Katrina

On August 29th, 2005, Hurricane Katrina exposed socially vulnerable populations in New Orleans, Louisiana, to disaster's wrath; and the viewing world to disaster management's greatest failure. The governments' lack of response to aid the most desperate and helpless residents of New Orleans, was the Nation's truest display of social inequality. This overwhelming failure led to the substantial loss of life, property, community and culture in the disasters hardest hit areas. An estimated 1836 people died as a direct result of Hurricane Katrina where an overwhelming majority of them were poor, black, elderly and disabled (Zoraster, 2010, p. 74).

In order to prevent a recurrence of past mistakes, emergency management professionals must revisit the preparedness and response failures of Hurricane Katrina, identify gaps and shortcomings, and with those lessons in mind, develop multifaceted, community-based, emergency operations plans inclusive of socially vulnerable populations. While planning would be complex, timely and require extensive resources, it is morally and ethically unjust to allow vulnerable populations to suffer disproportionately during disasters.

Socially vulnerable or special needs populations, as defined by Karen Ford (n.d.), are citizens, groups or communities whose circumstances, such as; socio-economic status, age, addiction, mental or physical handicap, ethnicity, cultural belief's and language barriers, create obstacles that limit their ability to obtain or comprehend critical information, or respond as directed by emergency officials. Flanagan, Gregory, Hakkisey, Heitgerd and Lewis (2011) defined social vulnerability as, "[…] the socioeconomic and demographic factors that affect the resilience of communities." Protecting socially vulnerable populations from future catastrophic events begins with effective, inclusive and comprehensive emergency operations plans.

In light of the failed emergency response to Hurricane Katrina and the post-Katrina lessons learned, emergency management practitioners understand the need to develop disaster response and resilience plans that identify and address the needs of socially vulnerable populations. Unfortunately, though, the complexity involved with this type of planning has left much undone, now, ten years post-Katrina. Although the federal government conducted comprehensive investigations and analyses of preparedness and response failures after Katrina, the Federal Emergency Management Agency (FEMA), neglected to provide detailed guidance and support to state and local emergency planners with specific measures for protecting those incapable of protecting themselves (Greenberger, 2006). Furthermore, the lack of funding, support and emergency management personnel available to commit to this timely endeavor limits the feasibility of developing and implementing effective emergency operations plans that comprehensively address the needs of the most vulnerable. Without adequate and effective emergency operation plans that address the special needs of society's most vulnerable populations, catastrophes like Hurricane Katrina, as Zack (2009) noted, will continue to, "[…] magnify social inequalities" while, systematically destroying lives, properties, cultures and communities.

Research Purpose

The purpose of this research will be to study the social, political and financial gaps in planning and response to vulnerable populations during Hurricane Katrina to help determine potential solutions that prevent future, large scale, disaster-related impacts to society's most susceptible citizens. This research will be valuable to the emergency management field, in that, this collaborative process may help disaster planners to (1) develop action agendas that modify disaster management planning processes to ensure inclusivity of vulnerable populations, (2)

build relationships with community leaders capable of identifying the necessities and limitations

of area residents, (3) foster public-private partnerships to increase support, funding and resources

ensuring comprehensive protection for the entire community, (4) work more closely with

political leaders from all levels of the government to develop policies and relationships that

protect vulnerable populations while minimizing their risks, (5) and teach vulnerable populations

the ways in which to protect themselves from future disasters.

This study seeks to answer:

H1: If emergency planners are more inclusive of socially vulnerable populations during

disaster plans development then more lives would be saved.

RQ1: Did local, state and federal government planning, preparedness and response

failures or systems of social inequity and government mistrust cause New Orleans most

vulnerable citizen's to suffer disproportionately during Hurricane Katrina?

RQ2: Can emergency managers and disaster planners effectively resolve systems of

social inequity or is that beyond their scope?

RQ3: How can emergency managers and disasters planners protect socially vulnerable

populations from suffering disproportionately during disasters?

Literature Review

A consistent theme throughout the literature reviewed for this thesis stressed the fact that

socially vulnerable populations suffer greater harm during disasters (Hoffman, 2008, p. 1496).

Government documents, congressional reports, senate hearings and federal briefings noted

Hurricane Katrina's response failures were multi-faceted, to include; poor planning, breakdowns

in communication, lack of preparedness, inadequate and inexperienced leadership, as well as

response efforts marred with confusion due to the newly implemented National Response Plan

(NRP), and the restructuring of FEMA into the Department of Homeland Security (DHS). Social activists, journalists and social science researchers, on the other hand, stressed the governments' response failures were caused by; structural racism, ageism, social inequity, and the failure of the government to understand and resolve the societal factors that create socially vulnerable communities.

Therefore, it is vitally important to determine if developing disasters plans inclusive of vulnerable populations is enough to prevent another Katrina; or, if the social activists and researchers are correct to stress the government must fix the systems and factors that create social inequity and vulnerability.

New Orleans: Vulnerable Populations and Social Inequities

While the federal government identified many areas that required attention, so too, did advocates for socially vulnerable populations. The government worked to identify preparedness, response and recovery shortcomings while advocates for special needs populations detailed perceptions of race and class inequities in disaster planning and response. Understanding how socially vulnerable populations perceive the governments failures during Hurricane Katrina can potentially aid in developing solutions to bridge the barriers between government officials and vulnerable populations. Building government-community partnerships through teamwork, integration and communication will aid with the development of preparedness, response and recovery plans that will save lives**.**

On August 29, 2005, New Orleans, Louisiana was decimated by the landfall of Hurricane Katrina. Robert Bullard, author of, "*Differential Vulnerabilities: Environmental and Economic Inequality and Government Response to Unnatural Disasters*," stated that Hurricane Katrina will go down in history as one of the deadliest and most expensive natural disasters to occur on

United States soil (p. 753). Approximately 1836 people were killed, insured damages were estimated at 70 billion dollars and economic losses were suggested to be as high as $125 billion (Bullard, 2008, p. 753). According to Bullard (2008), disaster planners, along with local, state and federal agencies failed to protect the area's most vulnerable populations, to include; children, elderly, disabled, sick, homeless, impoverished, and citizens wholly reliant on public transportation.

Bullard's research drew from past disasters dating back as far as eighty years, and emphasized the disparities between race, class and the government's disaster related assistance. Bullard noted the government's response to these historical disasters catered to white survivors and all but excluded African-Americans; oftentimes, leaving them for dead. While Bullard (2008) detailed several instances of the governments ethically unjust treatment of African-Americans and minorities during disasters, no storm stood out more to the economically challenged, African American residents of New Orleans, than Hurricane Betsy in 1965 (p. 760).

Hurricane Betsy, as explained by Bullard (2008) most severely impacted the Lower 9th Ward, a predominately black and socially vulnerable community in New Orleans (p. 761). Many of the residents believed the Mayor of New Orleans ordered the levees to be blow up so as to save the wealthier white neighborhoods. Hurricane Betsy completely flooded the Lower 9th Ward. This particular situation, be it myth or reality, caused a deepened mistrust in government officials and this mistrust remained in 2005 for African American residents of New Orleans (Bullard, 2008, p. 761). Bullard noted that when the levees failed during Katrina, many of the residents, once again, believed that government officials ordered the levees to be blown.

Bullard highlighted the government's failure to evacuate New Orleans, leaving the city's most vulnerable citizens directly in the path of this monstrous hurricane. Lack of transportation

predisposes socially vulnerable people to disasters impacts, as evacuation, if not planned for and provided by local, state or federal officials, will likely not be feasible for special needs populations (Bullard, 2008). Money, gas, food, lodging and transportation are oftentimes not readily available to socially vulnerable populations. National statistics, as noted by Bullard (2008), showed that in comparison to white households, where only 7% lack transportation, this number rises to 13% for Asian-Americans, 17% for Latinos and a staggering 24% for African Americans. Bullard noted that New Orleans had enough buses to evacuate 25% of the car-less residents, though, that did not occur (p 756). Bullard's (2008) research calls for equity in planning, preparedness, response and recovery by the governments' responsible for providing safety and security to all residents of the United States, not just white people.

In, "*Vulnerable Populations: Hurricane Katrina as a Case Study,*" Dr. Richard Zoraster (2010) conducted a case study that highlighted the risks and impacts to New Orleans most vulnerable populations during Hurricane Katrina. His objective was to identify social risk factors that increase the potential harm to vulnerable populations before, during and after disasters so as to develop mitigation solutions for future events. Zoraster (2010) explained the ways in which cultural and financial problems prevented the areas susceptible residents from developing adequate preparedness and evacuation measures prior to Katrina's landfall. Like Bullard, Zoraster (2010) noted that vulnerable populations are at greater risks during disasters due to: socio-economic standings, language barriers, high density housing, home-ownership, and immigration status (p. 74).

Poor housing, pollution and high-risk environments are a few pre-hurricane risks associated with socially vulnerable neighborhoods (Zoraster, 2010, p. 75). Zoraster noted a study conducted by Cutter et al. that deemed New Orleans as one of the highest risk areas in the nation

(Zoraster, 2010, p. 75). Zoraster explained that disaster preparations, such as evacuation, were hindered by; a lack of money, transportation, inability to evacuate large family units, and language barriers. As well, a large number of residents refused to evacuate because of a total lack of trust in authorities (Zoraster, 2010, p. 75). Zoraster noted that greater than 200,000 residents did not have any method of transportation to safely evacuate the area. He went on to note that white residents were three-times more likely than black residents to have access to vehicles (p. 75). Zoraster (2010) concluded his study by highlighting that disaster planning must give greater emphasis to socially vulnerable populations while understanding that most risks are more social than physiological (p. 76).

The continued theme of social vulnerability and the complete lack of trust in government officials by socially susceptible communities is further supported by Juliette Landphair in, "*The Forgotten People of New Orleans: Community, Vulnerability, and the Lower 9th Ward*." The phrase, "Perception is reality" rings true for most people when discussing Hurricane Katrina, race, disaster ethics, inequality, and government failures. New Orleans most vulnerable residents perceived that the government left them to die during Katrina and this perception is hard to change or even deny.

As noted by Bullard (2008) and again by Landphair (2007), many residents of the Lower 9th Ward believed that government officials blew up the levees during Hurricane Betsy to save the elite whites. Landphair further explained that this belief stemmed from 1927, when a wealthy, powerful, white businessman lobbied local officials to dynamite the Poydras levee to relieve the swelling Mississippi River that threatened to flood New Orleans businesses. Officials obliged and blew up the levee. While this prevented flooding to the businesses, it killed 250 people and destroyed the lives of thousands of residents who lost their homes and livelihoods in

St. Bernard and Plaquemines parishes (p. 841). Most of these residents received no compensation

for their losses (Landphair, 2007).

Political and government failures were a constant for New Orleans most vulnerable

communities. Residents were constantly shutout or ignored by the leaders tasked with protecting

them. For years, before Hurricane Katrina, New Orleans residents and social activists lobbied

political leaders and government officials in attempts to improve area schools, infrastructure,

healthcare, and playgrounds, while reducing the environmental hazards that surrounded their

neighborhoods (Landphair, 2007, p. 843). Unfortunately, though, local officials and politicians

turned a blind eye to the requested improvements (Landphair, 2007). This level of inaction

furthered the citizen's belief that authority figures could not be trusted to help. When Katrina

made landfall, Landphair (2007) noted, the local, state and federal governments failed response

proved this point to be true.

The level of government mistrust continued to grow during the recovery. Many African

Americans were concerned about the governments' intent when equally vulnerable, wealthier,

white neighborhoods began rebuilding; yet, the Lower 9th Ward's recovery sat idle (Landphair,

2007, p. 844). According to Landphair (2007), Mayor Ray Nagin made matters worse when he

called on individuals to reconstruct their own communities, as though New Orleans most

susceptible residents, who lost everything, had any means or resources to do so. This caused

great suspicion for 9th Ward resident who believed the government was attempting a land grab so

they could gentrify the once, predominately, African-American community (Landphair, 2007, p.

844). Fears of disaster capitalism grew.

Landphair concluded by stressing the importance of building cooperative relationships

between government officials and community members. She mentioned that local governments

must work to provide adequate flood protection systems, retail stores, jobs, homes, businesses, schools, healthcare facilities and adequate infrastructure so as to include the areas socially vulnerable citizens in New Orleans's economical framework (Landphair, 2007, p. 845). Landphair noted that New Orleans must not continue to promote segregation as the history of the area has repeatedly done (Landphair, 2007, p. 845).

Chester Hartman and Gregory Squires edited a collection of works by multiple authors in, *There Is No Such Thing as a Natural Disaster: Race, Class, and Hurricane Katrina.* The authors collectively deemed Hurricane Katrina and the failed government response a social disaster as opposed to a natural one. The varying authors throughout the book stressed their beliefs concerning the prominence of structural racism, classism and gender divisions in the United States and its political landscape; while they emphasized the critical need to address inequities so as to prevent similar, socially catastrophic, natural disasters (Hartman & Squires, 2006).

In Chapter One: "*Pre-Katrina, Post-Katrina*," authors Hartman and Squires (2006) underscored the social, political and economic similarities between New Orleans, before Katrina, with the rest of America's major metropolitan areas (p. 3). Hartman and Squires (2006) stated that segregation, extreme poverty, failing infrastructure, lack of social capital, inadequate resources, structural racism, government malfeasance and corruption were some of the glaring social and political transgressions that put New Orleans' most vulnerable residents in the direct path of Hurricane Katrina (pp. 3-6). Preventing future socially constructed natural disasters, according to Hartman and Squires (2006), requires America's policy-makers to confront and address the sources of structural and institutional inequality (p. 9).

Alan Stein and Gene Preuss authored Chapter Three, "*Oral History, Folklore, and Katrina*." Stein and Gene Preuss interviewed Katrina survivors to collect first-hand accounts and

perceptions of the authorities and government agencies responsible for providing aid. Stein and

Preuss captured remarks made to the House Select Committee, one of the agencies tasked with

investigating the government's failed response. One resident, a community activist named Dyan

Cole, said she heard the explosions from the government blowing up the levees. Another

survivor stated that the military kept people in camps, trapped behind barbed-wire fences and

refused to provide first aid and healthcare to the sick and injured. While others stated that

truckloads of dogs were let out to attack survivors (Stein & Preuss, 2006, p. 37). Many survivors,

lucky enough to have made it to the Interstate, described how they tried to leave the city on foot

but were turned around by police pointing guns at them, in efforts to protect the wealthy, white

neighborhood on the other side (Stein & Preuss, 2006, p. 39).

Stein and Preuss (2006) captured the resentment, heartache, and perceptions of the

governments failed response. The overall theme expressed by Katrina survivors was that the

government is prejudiced, sees them as disposable and for that, they cannot be trusted. Stein and

Preuss (2006) conclude by stating, that lawmakers, government agencies and the public must

revisit the oral testimony of Katrina survivors to determine what went wrong so as to develop

future response plans that will prevent a recurrence of this tragedy (P. 56).

In his book, "*Come Hell or High Water: Hurricane Katrina and the Color of Disaster,"*

Dr. Michael Eric Dyson, academic and author, detailed the governments failed response to

Katrina through the historically based lens of political indifference to black suffering. Dyson

(2005) began by describing the demographics of New Orleans, noting the distinct racial divide

and extreme poverty experienced by the area's most vulnerable residents (pp. 5-12). Much like

Hartman and Squires, Dyson (2005) stressed the importance of addressing the racial politics,

structural inequities, and institutional systems that make the rich, richer, and the poor, poorer.

Dyson (2005) explained that government officials, emergency managers and disaster response planners must anticipate the needs of vulnerable populations and plan for them accordingly. For example, the local government must plan for and provide municipal transportation to shelters for citizens without vehicles; while also ensuring the shelters are equipped to care for residents with disabilities and medical issues (p. 204). Taking this process one step further, Dyson (2005) suggested that planners should meet with community leaders and area residents to determine the types of resources that will be required to adequately safeguard the residents safety and survival (p. 204).

Scholarly researchers, journalists, social activists and academic authors; Bullard, Zoraster, Landphair, Hartman, Squires, Stein and Preuss and Dyson, depicted Hurricane Katrina and the failed response by the government as the worst social disaster in U.S. history. Based on the authors' backgrounds, it could be said that there were levels of imbalance and selectivity bias. Most of these authors pointed to structural racisms, classism, ageism, or gender bias as the underlying cause for the failed government response to Hurricane Katrina. Most deemed that the government must fix the systems of social inequity and contributing factors that create community vulnerability in order to prevent future catastrophic disasters. As well, local, state and federal officials, as noted by these authors, must make and implement, adequate and inclusive disaster preparedness and response plans.

Local, State and Federal Government Failures

Pervasive local, state and federal government planning, preparedness and response failures created a catastrophic suffering in New Orleans that was seen around the world. While social activists and Katrina survivors in New Orleans blamed the failed local, state and federal government response on racism, classism and systems of inequity; government officials

stressed the failures were due to confusion created by agency restructuring, policy and program

changes, and bureaucratic red tape. Government officials were quick to deny accusations that

race or class had anything to do with the completely inadequate response.

The 2006, United States Senate Report, *Hurricane Katrina: A Nation Still Unprepared:*

Special Report of the Committee on Homeland Security and Governmental Affairs, identified

several local, state, and federal government failures throughout the course of their bipartisan

investigation. According to the Senate Report (2006), the panel interviewed 325 witnesses,

reviewed roughly 838,000 pages of records, and held 22 public hearings where 86 witnesses

testified (p. 3).

The Senate Report (2006) noted several overlapping local and state failures, to include;

poor leadership, inadequate planning, an acknowledged lack of required resources to effectively

address the size, scope and severity of the impending crisis, as well as the outright failure to

obtain and commit the assets needed to effectively evacuate the areas 100,000 plus stranded

residents. The Senate Committee also noted that despite ample advanced warnings and the

National Hurricane Center's strongly worded advisories, government officials failed to recognize

Katrina's true destructive potential (Senate Report, 2006, p. 4).

The hierarchy of emergency response works from the bottom up, being that, the lowest

jurisdictional level, such as the local government, holds the initial responsibility for handling the

event (Senate Report, 2006, p. 3). As explained in the Senate Report, if the disaster is expected to

overwhelm local resources, the local government's chief executive, in New Orleans' case, Mayor

Ray Nagin, can request state resources to supplement the response.

Mayor Nagin failed to protect the socially vulnerable in New Orleans. Although he issued

New Orleans first ever mandatory evacuation, he waited too long and made no provisions to

assist residents who lacked transportation (Senate Report, 2006, p. 16). According to the 2006

Senate Report, the New Orleans emergency operations plan stated that the city would provide

transportation to residents without means to evacuate; though, Mayor Nagin failed to follow

through (p. 15). Ultimately, the cities buses ended up submerged in flood waters (Senate Report,

2006, p. 15). The 2006 Senate report recognized that impoverished and disabled residents did not

have the money or means necessary to evacuate or escape Katrina's path.

Mayor Nagin, and other local officials failed the people of New Orleans, as did the State

and its Governor, Kathleen Blanco. As explained by the Senate Report (2006), the state is

responsible for contacting the federal government and clearly requesting the specific resources

required to aid the state and local response and recovery efforts. When Governor Blanco wrote a

letter to President Bush requesting resources, she neglected to specify the type and number of

resources required, such as; transportation resources capable of evacuating the tens of thousands

of people with no access to vehicles or other means to evacuate (Senate Report, 2006, p. 585).

As well, the Secretary for the Louisiana Department of Transportation and Development, under

the state's emergency operations plan, held the responsibility for arranging transportation for

stranded residents should an emergency evacuation order be issued; though, he, too, failed to

make provisions to evacuate New Orleans before Katrina (Senate Report, 2006, p. 16).

The federal government is not without blame in the failed response to Hurricane Katrina.

According to the 2006 Senate Report, the federal government drastically missed the mark

regarding; planning, leadership, communications, and the overall failure to prepare effectively

for its role in the post-Katrina response (p. 16). For example, the U.S. Department of

Transportation did not adequately prepare for the likelihood they would be called in to assist

with emergency evacuations if requested by the state of Louisiana; though, under the National

Response Plan (NRP), this duty fell on the federal government (Report, 2006, p. 16). The Senate

Report concluded by offering several suggestions for improving policies, preparedness, planning,

and response to all-hazards events.

Susan Cutter and Melanie Gall authored, "*Hurricane Katrina: A failure of planning or a*

planned failure?" Cutter and Gall (2007) did not simply focus on policy failures or social

vulnerability concerns, they worked to explain; the contributing social vulnerabilities, the need

for improvements in disaster mitigation and preparedness, and the failures caused by the newly

restructured disaster management framework (pp. 3-4).

The Federal Emergency Management Agency (FEMA) experienced great successes

under the leadership of James Lee Witt. Witt, a Clinton appointee, had emergency management

experience and used all-hazards, proactive mitigation approaches that lessened the impacts of

disasters (Cutter & Gall, 2007, p. 3-4). As explained by Cutter and Gall (2007), FEMA was a

stand-alone agency with a direct line to the president before 9/11. When the Bush administration

took over office, Witt was replaced by Bush's political appointees, none of whom had any

emergency management experience (Cutter & Gall, 2007, p. 4).

As noted by Cutter and Gall (2007), after the terrorist attacks on September 11, 2001,

FEMA was absorbed into the newly formed Department of Homeland Security (DHS), stripped

of its independent status, underwent fundamental changes in responsibilities, and lost a good

portion of its budget and technical experience (p. 4). This restructuring, coupled with the new

National Response plan, left many in government, political, emergency management and disaster

response roles confused as to their duties before, during and after Katrina (Cutter & Gall, 2007,

p. 4).

Cutter and Gall (2007) explained that government officials and emergency planners must improve disaster mitigation and community preparedness by first understanding social vulnerabilities and the underlying factors that create them, such as; segregation, spatial distribution, marginalization, poverty, inadequate education, disabilities, poor health, and unemployment (p. 5). Cutter and Gall (2007) stressed the point that both social vulnerability and government malfeasance turned a natural disaster into a social catastrophe (p. 5).

New Orleans resident, historian, journalist, college professor, and evacuee, Douglas Brinkley, authored *The Great Deluge: Hurricane Katrina, New Orleans and the Mississippi Gulf Coast.* Much like Stein and Preuss, Brinkley went to work gathering the oral history of Katrina survivors from varying points of view. He detailed the fierce hurricane, storm surge, levee breaches and complete response failure of the local, state and federal government through interviews and eyewitness accounts.

Brinkley highlighted the incompetence of New Orleans Mayor, Ray Nagin, Louisiana Governor, Kathleen Blanco and FEMA Director, Michael Brown. Brinkley (2006) noted that the Louisiana Society for the Prevention of Cruelty to Animals (SPCA) immediately went to work and evacuated all of the animals in their care, four days in advance of Katrina; yet, local, state and federal officials did not make any provisions to evacuate the estimated 112,000, socially vulnerable, impoverished, elderly and disabled residents in New Orleans.

According to Brinkley (2006), local and state officials have known for years that many of the area's residents had no means or ability to self-evacuate. The New Orleans emergency operations plan (EOP) called for evacuation via Regional Transit Authority (RTA) buses and area school buses sixty-hours in advance of the storm (Brinkley, 2006, p. 117). Not only did Nagin fail to issue the mandatory evacuation in time, he never completed contract negotiations

with the RTA to ensure drivers would remain in the area and transport evacuees to area shelters (Brinkley, 2006, p. 92). Brinkley (2006) concluded that the governments' failures were the true disaster, not Hurricane Katrina.

In February of 2006, the White House released, *The Federal Response to Hurricane Katrina: Lessons Learned.* This 200 plus page document provided a comprehensive view of the challenges faced during the federal response to Hurricane Katrina (p.2). The report began by detailing Hurricane Katrina's size, severity, storm surge and resulting levee failures that inundated New Orleans with toxic floodwaters (White House, 2006, p. 5-6).

The goal was to provide a full perspective of the enormity of the damage caused across the greater gulf coast so as to depict the immense demands placed on the local, state and federal government. While the media focused primarily on the dreadful suffering in New Orleans, this catastrophe was not limited to one city, as Katrina's destruction actually covered multiple states. The second section provided a brief overview of the federal government's role in disaster preparedness and response by explaining how the system was supposed to function during a disaster (White House, 2006, p. 2). The federal response, acting under the newly created 2003 National Response Plan, fell short, as it did not take into account simultaneous and widespread damage (White House, 2006, p. 3).

Chapter Three discussed in great detail the pre-Katrina landfall measures taken by local, state and federal officials. According to the White House (2006), the National Hurricane Center (NHC) advised officials that Katrina would make landfall near New Orleans with storm surges fifteen to twenty feet above normal sea level (p. 24). New Orleans, a below sea level city, could experience massive flooding due to heavy rainfall, overtopped and possibly breached levees (White House, 2006, p. 24). This report was received by all levels of government approximately

56 hours prior to Katrina's landfall (White House, 2006, p. 24). State and local officials were well aware of the 100,000 plus residents who lacked transportation to evacuate the city (White House, 2006, p. 26). According to the White House (2006), Mayor Ray Nagin did not order a mandatory evacuation until pressed to do so by President Bush on 28 August 2005, 19 hours before Katrina made landfall (p. 28). The Mayor's actions were, too little, too late.

The report, according to the White House (2006), was written to focus primarily on the federal response to Katrina and the improvements that must be made to the system. The report only noted local and state deficiencies when they had bearing on federal efforts or decisions (White House, 2006, p. 2). Ultimately, this report highlighted; the massive federal response, missed opportunities, poor leadership of local and state officials, communications breakdowns that hampered response efforts, as well as the preparedness and planning failures that should have prevented the large scale suffering and loss of life in New Orleans, Louisiana (White House, 2006). While the report detailed failed federal efforts, missed opportunities, and identified seventeen critical challenges to overcome, it tended to show bias in favor of the federal government and its massive response to Katrina.

According to, "*A Failure of Initiative*," the final report from the House of Representatives, Select Bipartisan Committee to investigate the preparation for and response to Hurricane Katrina," "If 9/11 was a failure of imagination, then Katrina was a failure of initiative. It was a failure of leadership" (Congress, 2007). The investigative committee was tasked with determining; the ways in which local, state and federal authorities developed, coordinated and executed emergency response plans; the preparatory actions authorities took in advance of Katrina's impending landfall; and the response measures conducted post-landfall by all levels of government (Congress, 2007).

The report summarized findings from over 500,000 pages of documents, 9 public hearings, and multiple briefings and interviews (Congress, 2007). The studies limitations, according to Congress (2007), covered the preparation and response measures that took place one week before Hurricane Katrina made landfall, to the two weeks following the storm. Although the report identifies as Bipartisan, few democrats participated, as they were instructed by their party leaders to boycott this investigative effort (Congress, 2007, p. 11).

This report acknowledged, in a way, the need to recognize the ongoing national debates, media polls, and distinct racial division of public opinion that indicated the institutions deplorable response to assist New Orleans most vulnerable citizens was based on race and class (p. 19). It should be said, though, while, the committee agreed to discuss the socioeconomic and racial attributes of New Orleans, the majority of members serving, admittedly disagreed with racism as a factor for the failed governmental response (Congress, 2007, p. 20).

The 2006 Senate Report, the White House Executive report, the Select Bipartisan Committees report, portions of Cutter and Galls research, and parts of Brinkley's book, all shared similar conclusions regarding the failed response to Hurricane Katrina. While each approached the events from their own perspectives, the overarching theme highlighted the need to correct; leadership, planning, preparedness and response deficiencies on an individual, community, local, state and federal government level.

It must also be noted that the Senate, White House and Bipartisan Committee reports were investigations conducted by the very political parties tasked with protecting the citizens of the United States. While many of the findings referred to the adjustments required for bettering the disaster response system, it could be said that confirmation bias was potentially used to exclude race and class as contributing factors. While the Select Bipartisan Committees report

suggested that topics of race and class must be recognized and discussed with regard to the

governments' response, the committee immediately followed by quickly dismissing the

possibility that institutional or structural racism were a factor. Certainly, a third party,

independent investigation may have been the most appropriate and less biased investigative

approach.

Methodology

According to Creswell (2009), research design is explained as the plan for conducting

research that incorporates philosophical assumptions, design strategies, and research methods

(p. 5). Qualitative research is descriptive in nature and focuses on the social and human aspects

that individuals and groups attribute to problems (Creswell, 2009, p. 4). One effective strategy

used during qualitative research, as noted by Creswell (2009), is the case study. Case studies

explore an event in great detail by collecting multiple sources of data for analysis (Creswell,

2009, p.13). The proposed methodology and strategy for this research will be a qualitative case

study. This methodology and strategy should provide the most effective means for examining the

social and human factors of the failed response to Hurricane Katrina.

Data Collection

This researcher conducted a literature-based, secondary analyses of available qualitative

documents and qualitative audio and visual materials, to include; academic journals, government

reports, newspapers, field studies, books, magazines, media releases, video footage, published

survey's, articles, data-sets, and demographics to identify; planning failures, causal social

factors, and financial constraints; while, uncovering specific, actionable methods to create

resilience and sustainability for socially vulnerable populations (Heaton, 2008).

The researcher will record documents from secondary materials, by journaling applicable information and key ideas; while, noting information reliability and potential bias. Audio-visual material will also be examined and pertinent data will be included in the researcher's journal (Creswell, 2009, p. 182). While this method poses limitations, such as; access, articulation, accuracy, and in depth data searches, there are also several advantages (Creswell, 2009, p. 180). Funding and time constraints limit this researcher's ability to conduct site visits and personal interviews. Documents and audio-visual materials provide a means to obtain interviews from survivor's through prior research studies, convenience for the researcher to review data as time permits, and limits the amount of funding required to complete the research (Creswell, 2009, p. 180).

Data Analysis

As explained by Creswell (2009), qualitative case studies describe, in great detail, the population and location affected; while, the data collected is analyzed to identify problems or themes (p. 185). Data collection and analysis will be conducted simultaneously as suggested by Creswell (2009). A complete data analysis will be conducted, through; organizing, reading, understanding, coding, describing and interrelating ideas and themes, interpreting, and lastly, validating the information (Creswell, 2009, p. 185).

Data Validity

Qualitative data validity, as defined by Creswell (2009), is the practice of conducting accuracy checks on the data collected to ensure the material is trustworthy, authentic and credible (p. 191). The following data validity strategies will be to verify information accuracy throughout this study, to include; triangulation, the use of, "[…] rich, thick descriptions,"

clarification of bias, the presentation of, "[…] discrepant information," as well as "[…] peer debriefings" (Creswell, 2009, p. 192).

Discussion

The goal of this research was to identify whether local, state and federal government planning, preparedness and response failures or systems of social inequity and government mistrust caused New Orleans most vulnerable citizen's to suffer disproportionately during Hurricane Katrina. The literature reviewed and data analyzed answered the question posed, though, supported both sides. The research findings determined that the majority of suffering experienced during Hurricane Katrina was a combination of government inaction, systems of social inequity and the communities' lack of trust in authorities. Throughout the research, however, there were two distinct and opposing views. From the social activist, academic, media and community perspectives, the government failed to respond promptly due to the race and class of the victims. Though, the government vehemently denied those claims; while, stressing ineffective leadership, agency confusion and inadequate communications were the key reasons for the failures. Both sides of the research question can be supported, and even argued effectively.

Demographics and Victim Statistics

Statistics throughout the reviewed literature detailed the demographics of Katrina's hardest hit areas to include; the Delta region, home to Mississippi, Alabama, and Louisiana, and most specifically, the devastated city of New Orleans. The Delta region, as noted by Dyson (2006), was plagued by extreme poverty well before Katrina's landfall (p. 5). Naomi Zack (2007) stated that Louisiana was, "[…] the second poorest state in the U.S." falling directly behind Mississippi, which ranked first (p. 110). The average income for the areas 90,000 poor,

according to Dyson (2006), was less than $10,000 a year (p. 5). In New Orleans, 69.7 percent of the residents were African-American, of whom, more than 103,000 were impoverished or lived below the poverty line (Dyson, 2006, p. 5). Dyson (2005) stressed that the poverty rate of New Orleans which stood at 23 percent, was 76 percent higher than the national average (p. 5).

After the Industrial Canal, 17th Street Canal, and the London Avenue Canal levees failed, residents scrambled to survive (Zack, 2007, p. 109). Zack (2007) noted that 80 percent of New Orleans quickly filled with toxic flood waters, which were estimated to have reached a depth of twenty-feet in some parts of Orleans Parish (p.109). Based on the information and data available post-Katrina, Brunkard's et al. (2005), research revealed that 40 percent of Katrina related fatalities were categorized as drownings; while, 25 percent were due to trauma or injury. Brunkard et al. (2005) stated that 65 percent of the deaths in New Orleans, most specifically, in the Lower 9th Ward, Lakeview and Gentilly, resulted from injuries and drownings caused by the levee breaches.

Statistically, the elderly, disabled, and impoverished African-Americans in New Orleans were the primary victims of Hurricane Katrina. Zack (2007) explained, of the 80 percent of the Katrina related deaths reported in Orleans Parish, 51 percent were over the age of 60, 47 percent were over the age of 75, and 68 percent were African American (p. 109). It should also be noted that 57 percent of elders in New Orleans were reportedly disabled or had disabilities (Dyson, 2005, p. 5). Brunkard et al. (2005) stated that Katrina's mortality rate for African-Americans was, "[…] 1.7 to 4 times higher" than among white people over the age of eighteen.

The literature and data reviewed depicted a clear picture of race, age, disability and socio-economic status as contributory factors that impacted New Orleans most vulnerable residents during Katrina. Due to the affordability of homes, these citizens, as noted by Zack (2007), lived

in the most susceptible, low-lying, environmentally hazardous, and flood-prone areas of New

Orleans. As well, it can be concluded that most of them lacked the financial resources and

physical means needed to evacuate.

Racism

  According to social activists, researchers, academics and journalists**,** systems of social

inequity caused by structural racism were to blame for the governments' failed response to

Hurricane Katrina. These failures, they noted, exacerbated the suffering endured by victims in

New Orleans. Powell (2008) defined structural racism as, "[…] the macro-level systems, social

forces, institutions, ideologies, and processes that interact with one another to generate and

reinforce inequities among racial and ethnic groups." The basic premise is, throughout history,

political processes, institutional practices, and social segregation have systematically prevented

African Americans from obtaining the same opportunities and privileges granted to whites. In

Katrina's aftermath, President Bush acknowledged this by saying:

> […] there is also some deep, persistent poverty in this region as well. And that poverty
>
> has roots in a history of racial discrimination, which cut off generations from the
>
> opportunity of America. Let us rise above the legacy of inequality (Dyson, 2005, p. 9).

  Social advocates stressed the need to reduce risks to vulnerable populations by being

racially inclusive during policy development and political practices. Researchers explained that

by eliminating racial barriers, socially vulnerable populations would be able to gain access to the

necessities afforded to middle and upper class communities, such as: safe neighborhoods, fair

wages, secure employment, quality education, adequate infrastructure and sufficient emergency

services protections.

Throughout the literature, many of the social researcher's provided examples of structural and institutional arrangements that dated back as far as the Emancipation Proclamation. These arrangements, they noted, were developed to benefit the white elite; while, they systematically removed opportunities for African Americans. According to the research, structural and institutional systems were established in a hierarchal fashion that placed white people in positions of power and black people as their subordinates. Similar to Karl Marx's Conflict Theory, in which, the upper class, or elite white, controlled the institutions and resources of the lower class (poor black) while continually exploiting them through the use of their power (Smith, 2011).

Kubish (2006) used housing and education as an example of how structural and institutional arrangements continue in cyclical nature and impeded the progress of African Americans. She noted that most educational systems are supported by the area tax base which was established by local policy. Many impoverished African Americans live in overcrowded public housing and work low paying jobs (Kubish, 2006). This combination, Kubish (2006) explained, creates an inadequate tax base and thereby limits the amount of money available to provide for quality education. The lack of quality education fails to prepare impoverished African Americans for the workplace and ultimately limits them to lower paying positions thereby confining them to substandard housing. This type of structural arrangement, social researchers agreed, keeps African Americans trapped in the cycle of poverty.

Based on the collective views from social literature, researchers agreed that although the governments' response to Katrina was deplorable, it was not conducted as purposeful acts of racism or discrimination. However, the failures were correlated as a by-product of the social, political and economic arrangements that created a structural divide between race and class

(Hartman & Squires, 2006). Structural arrangements, such as; racial segregation, socioeconomic deprivation, class mobility, failing infrastructure, inadequate educational systems, insufficient access to quality healthcare, crowded urban housing districts, nonexistent environmental protections and limited opportunities for employment, researchers stressed, continue to perpetuate racial disparities (Cutter & Gall, 2006).

Social Vulnerabilities

The research is clear, as stated earlier, there can be no doubts that disasters disproportionately affect socially vulnerable populations (Zoraster, 2010, p.74). While middle and upper class residents of Louisiana were able to safely and effectively evacuate prior to Katrina's landfall, many citizens were not as fortunate. Elder, Miller, Bowen, Glover, and Piper (2007) conducted a research study to determine the psychological and personal reasons why so many African Americans failed to heed evacuation warnings in New Orleans. The research revealed that poverty, poor health, disability, age, limited access to resources, strong family ties, racial barriers and a lack of trust in authorities were just a few of the factors that prevented residents from leaving.

Elder et al (2007) grouped themes collected from the interviewed population and provided examples that supported the decision not to evacuate. Poverty, according to Elder et al. (2007) prevented many residents from leaving as they lacked transportation or money for gas, lodging and food. Others noted that city buses went off of scheduled bus routes and entered into the white neighborhoods to pick up residents; however, they stayed on scheduled bus lines in black neighborhoods. This did not permit the elderly, disabled and those in poor health access to public transportation as they had no ability to walk to the bus pick-up locations (Elder, et al., 2007). As a result, able-bodied family members remained in their homes to care for those who

were physically unable to leave. As well, according to Elder et al. (2007), many African American men wanted to stay behind to protect their homes and valuables from damage and looting. Many stated they had a complete lack of trust in authorities noting the police were looting and stealing as well so they could not be trusted to protect their property (Elder et al., 2007).

Government Mistrust

Findings from the researched showed that socially vulnerable populations in New Orleans held a deep and historical lack of trust in government officials, political leaders and legal authorities. This mistrust prevented some residents from evacuating the area prior to Katrina. Unfortunately, as a result, people lost their lives. When comparing Hurricane Katrina research, distinct, interrelated themes of the failure to trust authorities appeared. Past practices and perceptions of misdeeds by government officials created an environment of suspicion for socially vulnerable citizens.

Many of the social researchers and academic author's, to include; Landphair, Brinkley, Bullard, Dyson, Elder, and Zack, detailed the underhanded practices of politicians and government officials that took advantage of New Orleans inner city poor. For example, impoverished, predominately African American neighborhoods, Orleans East and Gentilly, were dumping grounds for hazardous waste (Bullard, 2007, p. 777). Area residents and social activists fought for years to protect their neighborhoods and children from these hazardous dump sites. Arrangements, they say, were made between business leaders and public officials who, once again, showed little regard for the socially and politically powerless. This type of disregard taught community members that officials did not care about them and would not protect them from danger.

Countless examples of the lack of trust in authorities were gathered by researchers. Some residents believed that government officials turned off the city pumping stations so white neighborhoods could be saved; as the impoverished African American areas were the low lying areas where flood waters would naturally collect (Elder et al., 2007). As well, area residents said the evacuation orders were unclear and delivered in a mixed message format. This confusion led citizens to ignore the issued warnings, while others assumed the government was just trying to run them off. Naomi Zack (2009) noted that some of the African American, Lower 9th Ward property owners were concerned about leaving their homes for fear the government would prohibit them from returning so as to pursue government land grabs, disaster capitalism and the gentrification of New Orleans. Research results revealed that this belief or fear was actually warranted.

Results from the social research conducted affirmatively supported the theory that systems of social inequity and government mistrust factored into the disproportionate suffering of New Orleans most vulnerable citizens. The dynamics that create socially vulnerable societies directly place large percentages of America's most susceptible citizen in harm's way during disasters. Addressing and correcting these social and political factors would require an enormous commitment from the government, politicians, private sector, community leaders and the public. It can be said, though, that correcting these systems and structures is a noteworthy goal; however, such changes fall well outside the scope of the emergency managers and disaster planner.

Government

According to the White House, Executive Office of the President report (2006), local and state governments hold the primary responsibility for protecting their citizens from civil

disturbances and threats to public safety (p. 11). The federal government lends its support to state and local governments when their resources are overwhelmed, or when the situation is so dire, resources are likely to become overwhelmed (White House, 2006, p. 11). The findings from this research concluded, that while systems of social inequity exacerbated the disasters impacts, local, state and federal government failures to plan, prepare for, and respond to Hurricane Katrina caused the greatest amount of suffering for Gulf Coast residents, and most specifically, New Orleans most vulnerable citizens.

The research results, both from the social perspective as well as government findings, consistently correlated three decisive findings; First, social scientists, academics, government officials and emergency planners knew that a large-scale hurricane striking New Orleans was a matter of when, not if; Second, with a large enough storm surge, the levees would be overtopped and likely suffer catastrophic breaches. And lastly, city officials should have had in place; definitive emergency operations plans, the ability to execute the plans in a timely fashion, and the resources required to evacuate and shelter the estimated 110,000 plus vulnerable residents who would otherwise be trapped.

All of these findings were identified years before Hurricane Katrina made landfall in Louisiana. It cannot be said that local, state, and federal officials were unaware of the potential devastation a Category 3 storm (or greater) would cause to New Orleans. It stands to reason that this Gulf Coast city, in particular, was a disaster waiting to happen.

According to France (2015), the National Oceanic & Atmospheric Administration Hurricane Research Division ranks New Orleans in the top 5 most vulnerable cities for Hurricanes, with the likelihood of "[…] a major hurricane striking within 50 miles of the city every 7 to 11 years." As well, New Orleans sits 6 feet below sea level, has the Mississippi River

to the north, Lake Pontchartrain to the south, and is walled off like a giant soup bowl by shoddily constructed and improperly maintained levees. The city is also home to a staggering number of poor, elderly, and disabled residents, many who lack the means necessary to evacuate. These critical factors should have prompted city and state government officials to have in place, adequate preparedness and response plans, as well as the resources required for rapid deployment. Unfortunately, though, this was not the case.

Hurricane Pam

Research findings have clearly established that FEMA and Louisiana officials understood that a category 5 hurricane striking New Orleans was one of the most pressing and likely disaster scenarios facing our nation (Congress, 2007). As noted by Congress (2007), in July of 2004, FEMA funded a simulated disaster exercise named, Hurricane Pam. This exercise brought local, state and federal agencies, emergency officials and volunteer groups together with the goal of developing joint response plans capable of managing a disastrous hurricane in southeast Louisiana (Congress, 2007, p. 81). According to Congress (2007), Louisiana State University researchers developed the hurricane scenario based on computer models and ensured the greatest impact was to New Orleans. The details of the exercise were almost prophetic, in that, a great majority of the potential impacts from Pam, actually materialized during Katrina.

FEMA contracted Innovative Emergency Management (IEM) to help state and local agencies identify pre-landfall planning and post-landfall logistics (Congress, 2007, p. 82). The IEM plans, however, were only to be used as general guidelines. State and local officials were responsible for furthering development into area specific, individualized, detailed operational plans (Congress, 2007, p. 82).

A few critical topics were not addressed during the Hurricane Pam drill, to include; pre-landfall evacuations, communications and security. Although one of the exercise assumptions noted that, "300,000 people would not evacuate in advance" of Pam; the general presumption was that local and state governments held the responsibility for conducting pre-landfall evacuations (Congress, 2007, p. 82). IEM explained that FEMA directed them to focus on post-landfall and recovery planning, as pre-landfall evacuations had been covered in great depth during prior training sessions (Congress, 2007, p. 82). Communications and security issues were on the agenda for the exercise, but plans development addressing the coordination of displaced schoolchildren took priority (Congress, 2007, p. 82). Unfortunately, pre-landfall evacuations, communications and security ended up being three very real and pressing problems during Katrina.

A second Hurricane Pam planning session was scheduled for the summer of 2005; however, federal funding fell through and the training was cancelled (Congress, 2007, p. 82). This planning session was critical for expanding the response and recovery aspects not addressed in the first exercise (Congress, 2007, p. 82). Although funding fell through, local and state governments were tasked with completing the operational plans and correcting inadequacies identified during the initial 2004 Hurricane Pam exercise. Had these plans been fully developed, and actions been taken to expeditiously implement them, Katrina's impact on New Orleans most vulnerable citizens would have been greatly reduced (p. 83).

National Weather Service/National Hurricane Center Warnings

As early as August 25th, 2005, the National Weather Service (NWS) Tropical Prediction Center (TPC) and the National Hurricane Center (NHC) began reporting that Hurricane Katrina would enter the Gulf of Mexico as a Category 1 hurricane and track towards the Alabama-

Florida panhandle (White House, 2006, pp. 22-23). On August 26th, the NHC advised that Hurricane Katrina would make landfall east of New Orleans on Monday, August 29th, as a deadly category 4 or 5 hurricane (White House, 2006, p. 23). According to the White House (2006), the NHC predicted the storm surge would cause 15-20 feet of flooding (p. 24). This advanced notice gave local, state and federal officials upwards of 56 hours to evacuate New Orleans and the surrounding areas (White House, 2006, p. 24). On August 28th, at 0615 hours, the NHC upgraded Hurricane Katrina to a category 5 storm and notified local, state and federal officials (White House, 2006, p. 24).

Local and State Government Failures

As identified earlier, the local government holds the initial responsibility for protecting the citizens within its jurisdiction. The state government is available to support or supplant the local government should local resources become overwhelmed. When an impending disaster or catastrophe threatens, local officials should be in direct contact with the state government to ensure adequate support is available and resources are staged accordingly. The state government can request federal assistance if state and local resources are or will be overwhelmed.

Research findings and investigative reports irrefutably concluded, the failures and inactions of the local and state government intensified the suffering of Katrina's victims and survivors in New Orleans. Despite years of advanced warning, lessons learned from the Hurricane Pam exercise, the knowledge that 100,000 people could not self-evacuate, the potential for levee failures, and the intensely precise and grave forecast issued by the NWS days before landfall, New Orleans Mayor, Ray Nagin, failed in his duties, miserably. Although Louisiana Governor Kathleen Blanco made a much greater effort to protect the residents of Louisiana, she, too, is not without fault.

Emergency planners almost always recommend area evacuations as opposed to sheltering people during hurricanes (Congress, 2007, p.104). Disaster planners advise that sheltering should only be used as a last resort, being that, relief supplies and personnel may experience difficulties accessing the hurricane stricken areas. Congress (2007) explained that sheltered populations risk imminent danger from the storms intensity (p. 104). In 2005, New Orleans did not have any shelters certified by the American Red Cross (Brinkley, 2006, p. 17). According to Brinkley (2006), the Red Cross concluded that they would not put relief people in harm's way for a city that lies below sea level; however, they would open shelters outside of the flood zone (p. 17). For residents who were completely dependent on public transportation, this posed serious problems.

Noting the absence of certified shelters within the city of New Orleans, and the National Hurricane Centers dire August 26th report, advising Katrina would make landfall in New Orleans as a category 4 or 5 storm, it was clear that Mayor Nagin should have issued mandatory evacuations. However, he did not. Instead, Mayor Nagin wasted precious time trying to determine if the city could be sued by area businesses for lost revenues if he ordered the evacuation (Brinkley, 2006, p. 23). Mayor Nagin, according to the Comprehensive Emergency Plan of New Orleans ("The New Orleans Plan"), should have spent this precious time saving lives by ordering and overseeing the mandatory evacuation of the city's residents he was charged with protecting (p. 23). Nagin's failure to evacuate the city should have prompted Governor Blanco to step in, overrule his decision and order the mandatory evacuation herself. However, Blanco, according to Congress (2007), did not believe in forcing residents from their homes, instead she suggested that citizens should be urged to leave, not forced (p. 108). She did not use her authority to overrule Nagin.

According to Congress (2007), the New Orleans Plan stated that once a mandatory evacuation order is issued, the city can use all available resources to safely and quickly evacuate threatened areas (p. 105). The Mayor is granted full authority to commandeer resources, as well as enforce and facilitate the city's evacuation (Congress, 2007, p. 109). The plan also advised that special arrangements would be made to evacuate people who could not self-evacuate or who required life-saving assistance (Congress, 2007, p. 109). According to Congress (2007), special needs patients would be picked up at their homes by RTA buses and transported to the Superdome; though, the city never compiled a list of the special needs residents in the area (p. 278). The city failed all of these critical missions.

On Saturday, August 27th, Max Mayfield, the Director of the National Hurricane Center called Blanco and Nagin to express the severity of the situation (Brinkley, 2006, p. 58). Governor Blanco, according to Brinkley (2006), was frustrated that Mayor Nagin was not taking the threat of Katrina seriously (p. 58). Mayor Nagin was out to dinner with his wife when Mayfield finally reached him that evening. He advised Nagin that New Orleans was in grave danger, but instead of addressing the situation immediately, Nagin continued to delay (Brinkley, 2006, p. 53).

On Sunday, August 28th, at 0925 hours, President Bush called Governor Blanco and expressed concern from the residents of New Orleans and urged the she and Mayor Nagin issue mandatory evacuations for the area (Congress, 2007, p. 108). Less than an hour later, at 1011 hours, the Weather Forecast Office at the National Weather Service in Slidell, Louisiana, issued what was deemed, "an apocalyptic warning." The urgent bulletin, according to the United States Department of Commerce (2006), warned of devastating damage, noting; the majority of the area would be uninhabitable for weeks or longer, most of the homes would be damaged or destroyed,

industrial buildings would be non-functional, all low rise, wood-framed apartment buildings would be destroyed, concrete low rise apartments would be severely damaged, high rises businesses and apartments would sway dangerously, potentially to the point of collapse, all of the windows would be blown out, all persons, animals and livestock exposed to flying debris "[…] will face certain death," power will be out for weeks as destruction to transformers and power poles is imminent, and "[…] water shortages will make human suffering incredible by modern standards" (p. 18).

Finally, at 1100 hours on August 28th, approximately 19 hours before Hurricane Katrina made landfall, Mayor Nagin issued mandatory evacuations for New Orleans. According to the New Orleans Comprehensive Emergency Plan, residents without transportation should be picked up by Regional Transit Authority (RTA) buses at area checkpoints, taken to a staging area, such as the Superdome, and evacuated via school buses to state or regional shelters outside of the evacuation zone (Brinkley, 2006, p. 117). This type evacuation, according to the emergency plan, is to be coordinated with the state (Congress, 2007, p. 105). State officials can assist with providing buses, supplies, traffic, contraflow routes, shelter information and other resources as requested by the Mayor (Congress, 2007, p. 105). City officials were well aware that they lacked the resources required for complete evacuations. In spite of this knowledge, Mayor Nagin and city officials failed to request state or federal resources to supplement the local, pre-Katrina evacuation effort (Congress, 2007, p. 110).

Brinkley (2006) noted that Mayor Nagin failed to implement any formal evacuation plan with RTA buses; as well, he ignored FEMA guidelines that encouraged the coordinated use of area school buses and drivers to conduct evacuations (p. 91). Nagin also neglected to complete the hurricane evacuation plan by securing contracts with bus drivers and rail stations. Both,

Nagins failure to proactively obtain contractual commitments from drivers, and his delayed

issuance of the mandatory evacuation, resulted in a critical shortage of bus drivers (Brinkley,

2006, p. 92). One area nursing facility reported that they were unable to evacuate elderly

residents because all of the drivers had evacuated the area (Congress, 2007, p. 115). Amtrak,

another evacuation resource Nagin had at his disposal, repeatedly called City Hall and offered

700 empty seats to evacuees on the 5 empty trains they had leaving for Mississippi; the Mayor's

office declined (Brinkley, 2006, p. 92). When the levees broke, most of the city RTA and area

school buses were destroyed by flood waters. Nagin did not even plan ahead and have these

critical transportation resources protected.

Local government failures did not end with pre-landfall evacuations. Instead of spending

Sunday afternoon expeditiously evacuating residents to state and regional shelters, Mayor Nagin

opened the Superdome as a shelter of last resort. This lack of planning and preparedness placed

the city's most vulnerable citizens directly in Katrina's path (White House, 2006, p. 29). As well,

poor planning guaranteed that medical supplies, food, and water were grossly limited. For this

reason, Nagin advised residents to bring enough food and water to last for four days (Brinkley,

2006, p. 95). Some people who evacuated before the storm were able to bring a few supplies;

while, many others were not. During Katrina's landfall, the Superdome lost power knocking out

the lights, air conditioning and bathroom facilities. A section of the roof was ripped off due to

the high winds and rain was entering the facility. Conditions inside the Superdome deteriorated

rapidly.

Brinkley (2006) noted that when Katrina made landfall, the projected population at the

Superdome was roughly 10,000 (p. 135). Mayor Nagin should have predicted that if 10,000

citizens were at the Superdome, then another 90,000 residents likely remained trapped in the

community he neglected to evacuate. The Superdome, with limited staffing and supplies, was the only shelter "officially" opened by the city (Brinkley, 2006, p. 99). When the levees broke, the true emergency began. Nagin, once again, was completely unprepared and utterly incapable.

Mayor Nagin was derelict in his duty to protect the citizens of New Orleans; particularly, susceptible residents who required the most protection. Research findings revealed that Nagin's inability to; capably lead, decisively order and oversee mandatory evacuations, effectively implement the city's comprehensive emergency plan, skillfully communicate needs to the state's governor, competently coordinate with state agencies, and successfully connect the New Orleans Office of Emergency Preparedness with the State Emergency Operations Center so as to acquire resources, direction, information and support, caused undue suffering and hardship to the areas most underserved population. As noted by Congress (2007), "None of this had to happen" (p. 123).

As Louisiana's Governor, Kathleen Blanco, was responsible for protecting more than just the city of New Orleans; she was responsible for protecting the entire state. To Blanco's credit, according to much of the research and literature, once she understood the severity of Katrina and its potential impact on New Orleans, she immediately taking steps to protect the residents of her state. Unfortunately though, Blanco, along with other high ranking Louisiana state officials, made missteps that conclusively added to the failures experienced during Katrina.

The U.S. House of Representatives investigation cited that Blanco and state official's failed to; completely evacuate New Orleans, protect critical transportation resources, properly request federal support, stage National Guard troops outside of the flood zone, complete and implement the lessons learned from Hurricane Pam, maintain situational awareness, adequately train for and understand the Incident Command System, and have in place communications

systems and infrastructure capable of ensuring interoperable communications during disasters (Congress, 2007).

In spite of adequate and advanced warnings about the catastrophic hurricane barreling down on the state of Louisiana, errors made by Governor Blanco and state officials ultimately delayed rescue and relief efforts. Due to the war in the Middle East, a large portion of the Louisiana National Guard had been deployed to Iraq and Afghanistan. Governor Blanco realized she would need additional troop support; however, understanding the process for obtaining out of state troops as well as federal resources seemed to elude her. According to Dyson (2006), Bill Richardson, the governor of New Mexico offered to send troops to Blanco on Sunday, August 28th, the day before Katrina made landfall. Richardson, according to Dyson (2006), could not deploy asset to Louisiana until Blanco made a formal request to the National Guard's Washington bureau (p. 74). Unfortunately, Blanco did not send the request until Tuesday; therefore, troop deployment was delayed and New Orleans was underwater (Dyson, 2006, p. 74).

Despite Governor Blanco's attempts to secure resources before the storm, her inexperience continued to hamper efforts. Blanco formally requested that President Bush declare a state of emergency in Louisiana, on Saturday the 27th. Unfortunately, though, she neglected to include the specific types of assistance required, such as; the need for federal transportation prior to landfall for evacuations, as well as rescue boats and personnel after the storm had passed. These failures, according to Brinkley (2006), prevented the federal government from sending the required resources in a timely fashion (p. 39). As well, when a federal offer for assistance was issued to a Louisiana senior state official, he advised that the state had no unmet needs (Senate Report, 2006, p. 6).

Research findings concluded that Governor Blanco should have overruled Mayor Nagin's

decision to delay the issuance of mandatory evacuations. Congress (2007) explained that the failure to completely evacuate the city cost lives, increased suffering, endangered citizens and rescuers, and tied up key resources. As well, Congress (2007), explained that because these resources were committed to life-saving duties, they were not available to begin restoring and repairing critical infrastructure, to include; communications, power, water, pumping stations and levee systems. Certainly, it is clear that the Louisiana state government could have done more to prepare for and respond to Hurricane Katrina; however, it should be noted, the majority of literature revealed the most egregious government failures occurred at the federal level.

Federal Government Failures

"If state and local responses to the disaster were at times horrible, the federal government's dangerously delayed reaction verged on criminal" (Dyson, 2006, p. 62). Research findings from academics as well as government investigations revealed that the federal government, along with FEMA officials, were well aware of the conditions in New Orleans in the days and hours leading up to Katrina's landfall. With over 10,000 people sheltered at the Superdome, an estimated 90,000 residents trapped in their homes, the potential for major levee breaches, and the likelihood of catastrophic flooding; it should have been obvious to federal officials that local and state resources were going to quickly be overwhelmed. According to Congress (2007), the federal government underestimated the severity of the situation presented by Katrina, failed to project post-landfall needs, neglected to adequately involve the President, and were inept in the ability to respond in a timely and proactive manner (P. 131).

As noted previously, Governor Blanco requested President George W. Bush, declare a state of emergency on Saturday, August 27th, two days before Katrina's landfall. President Bush complied with Blanco's request and authorized FEMA to coordinate disaster relief efforts

(Brinkley, 2006, p. 39). Although the Governor failed to specify the types of aid required, her

request, along with the National Hurricane Center's warning, should have prompted the federal

government and FEMA to begin ramping up for a post-landfall response. That did not happen.

The inexperience, incompetence and ineffective leadership perceived at the local and state levels

were mild compared to that of the new administration tasked with directing FEMA and leading

DHS.

After the September 11, 2001 (9/11) terrorist attacks, FEMA was absorbed into President

Bush's newly created Department of Homeland Security. The massive restructuring combined 22

federal agencies while shifting the focus from natural disasters to terrorism (Dyson, 2006, p. 49).

Under this new umbrella, FEMA's authority, status and budget suffered. The once, cabinet level

agency with direct access to the president, was now an organization wrought with Bush's

political appointees and enmeshed in limitless bureaucracy (Dyson, 2006, p. 50).

According to Dyson (2006), President Bush appointed Michael Brown, as the new

Director of the Federal Emergency Management Agency (p. 50-51). Brown, a former

commissioner of a horse association, had no emergency management or disaster response

experience (Dyson, 2006, p. 51). Unfortunately, Brown was not the only one. FEMA, as noted

by Dyson (2006), had become an agency "[…] packed with patronage appointments" (p. 51).

Dyson (2006) explained that many of FEMA's top officials had been a part of President Bush's

campaign in 2000 (p. 51). According to an article published in the *Washington Post,* "[…] five of

FEMA's top eight officials had virtually no experience handling disasters" (Hsu, 2005).

In 2004, the National Response Plan (NRP) was developed as a framework to coordinate

federal resources to support local, state and tribal governments with preparedness, response and

management of domestic incidents (Department of Homeland Security, 2004). According to

DHS (2004), the NRP worked in conjunction with the National Incident Management Systems

(NIMS) to ensure effective and collaborative inter-agency incident management and unified

command. According to the NRP, Brown, who would have formally reported to President Bush,

was now filtered through the Secretary of the Department of Homeland Security, Michael

Chertoff. Chertoff, the top disaster official in the United States, was the principal advisor to the

President (Congress, 2007, p. 131). Much like Brown and other top FEMA officials, Chertoff

had little to no experience with emergency management. When Chertoff testified to the Select

Committee, he admittedly stated that, "[…] he was not a hurricane expert; nor did he have much

experience with disasters (Congress, 2006, p. 132).

According to Congress (2007), the Secretary of DHS was responsible for leading the

federal response to a catastrophe and making critical decisions, to include; the issuance of

Incidents of National Significance (INS) under the NRP (p. 131). According to the White House

(2006), if any of the four following conditions occurred or were likely to occur, the DHS

Secretary could issue an INS:

(1) A federal department acting under its own authority has requested the assistance of

the Secretary;

(2) State and local resources have become overwhelmed and the appropriate state and

local authorities request federal assistance;

(3) Greater than one federal agency has become involved in the incident response; or

(4) The President has directed the Secretary to assume responsibility for managing the

domestic incident (p. 14).

Once declared, an INS would have allowed federal agencies to take actions in preparation for,

response to and recovery from the incident (White House, 2006, p. 14). This designation,

according to Congress (2007), could be done in advance of a pending catastrophe. For example, Chertoff could have issued an INS for Hurricane Katrina on Saturday when President Bush declared the state of emergency. However, he did not.

An INS declaration carried with it the authority to; convene the Interagency Incident Management Group (IIMG), designate a Principle Federal Official (PFO), and invoke the National Response Plan's Catastrophic Incident Annex (NRP-CIA) (Congress, 2007, p. 131). The IIMG, as explained by Congress (2007), could use the information available to; assess a disasters potential, anticipate the potential resources required, develop plans for operational commanders to execute, and provide strategy and action recommendations to the Secretary and the President (p. 134). The PFO, as noted by the White House (2006), was responsible for coordinating and overseeing federal resources while executing federal incident management responsibilities at a domestic incident (p. 15). Invoking the NRP-CIA would have allowed the federal government to proactively send assets to the region to immediately begin life-saving measures (Congress, 2006). Chertoff never invoked the NRP-CIA (Congress, 2006).

Congress (2007) noted that had Chertoff issued the INS, the IIMG would have had roughly 56 hours to; develop evacuation plans for the Superdome, initiate the mobilization of the Department of Defense (DOD), and pre-stage rescue boats and buses in the region for immediate evacuation. Water, food, ice and Meals Ready to Eat (MRE's) would have been on hand in sufficient quantity and the level of suffering and heartache from Hurricane Katrina would have been minimal at best.

Hurricane Katrina began assaulting New Orleans around midnight on Monday, August 29th, 2005. By 0300 hours, the National Guard reported a breach in the 17th Street Canal levee (Brinkley, 2006, p. 627). Brinkley (2006) stated that within 8 hours, the storm surge had

overtopped the Mississippi River Gulf Outlet (MR GO) as well as the Industrial Canal levee leaving parts of New Orleans East submerged in 15 feet of toxic floodwater. At 0814 hours, the Industrial Canal levee was breached (Brinkley, 2006). Within 1 hour, the Lower 9th was reportedly inundated with 6 to 8 feet of water with the final depth nearing 20 feet in many parts (Brinkley, 2006). According to Brinkley (2006) all bets were off when water began pouring into New Orleans through two breaches in the London Avenue levee at 1600 hours.

The fate of residents trapped in the Lower 9th Ward and other vulnerable areas had been sealed. Disgracefully, before federal officials arrived, days later and in sizeable force, over 1000 people were dead, mostly from drowning; and another 100,000 suffered unimaginable conditions at the Superdome and Convention Center (Dyson, 2006). The post-landfall actions and inactions of Michael Brown, Secretary Chertoff, and President Bush were irresponsible and reprehensible.

As New Orleans filled with water and residents drowned or scrambled to their rooftop in hopes of staying alive and being rescued, Michael Brown had yet to request any help or resources from the federal government. Five hours after Katrina made landfall, and 8 hours after the National Guard reported the first levee breach, Brown sent a memo to Chertoff requesting a mere, 1000 FEMA employees (Brinkley, 2006). Brown did not request life-saving provisions such as; helicopters, boats, busses, food, water, or medical supplies; nothing, just 1000 people. Children, elderly and disabled people were dying; yet, Brown sent a memo that allowed employees up to 2 days to arrive (Dyson, 2006, p. 63). Unfortunately, as will be discussed shortly, Brown continued to make negligent decisions that would cause greater heartache, suffering and loss of life for Hurricane Katrina survivors and victims.

Marty Bahamonde, FEMA's on scene representative called Brown Monday night at 1900 hours. Bahamonde, according to Brinkley (2006), explained to Brown that he had toured New

Orleans via helicopter and the scene was grave. He detailed his findings noting; massive flooding

prevented ground transportation into the New Orleans area; thousands of people were trapped on

rooftops and search and rescue missions were critical; the Superdome would soon be

overcrowded and out of supplies as tens of thousands were heading there to escape the toxic

floodwaters, the medical staff at the Superdome were out of supplies, and sheltering 80 percent

of the residents of New Orleans would be a major undertaking as the majority of the homes were

flooded or completely destroyed (Brinkley, 2006, p. 268). For the first time since landfall, at

2000 hours, Brown called Chertoff to report the catastrophic conditions. Chertoff, America's top

disaster response official, did nothing. As a result, lives were lost.

On Monday evening, as Brown petitioned for help from Chertoff, Governor Blanco was

on the phone with President Bush. She explained the desperate situation in New Orleans and the

devastation wrought by Katrina (Brinkley, 2006). She emphatically pleaded for federal

assistance by saying, "We need your help. We need everything you've got" (Brinkley, 2006, p.

266). Blanco, once again did not specify the particular resources she needed, as she was

overwhelmed and potentially did not know. Bush, on the other hand, did not prompt her by

asking if she needed boats, food, troops, or what in particular she may have required. As noted

by Brinkley (2006), President Bush, like Chertoff, went to bed for the night without acting on

Blanco's request or taking any action on Hurricane Katrina (p. 266, p. 630).

The United States Senate Report (2006) questioned the practicality of the National

Response Plan's CIA by stating that it seemed unreasonable to expect state and local authorities,

overwhelmed by a catastrophe, to fully recognize their resource needs and appropriately request

federal assistance. As well, the NRP-CIA indicated that when federal resources are provided,

state and local officials are responsible integrating, directing and managing the process of those

coming to their rescue (P. 15). The Senate (2016) acknowledged that it was unreasonable to expect overwhelmed officials to effectively managing their own rescue (p. 15).

According to much of the research, Blanco and Bush were in a political power struggle as Bush wanted to federalize Blanco's National Guard and assume authority of the evacuation (Brinkley, 2006). Blanco and other Louisiana officials feared the federal government would impart martial law in her state so she rejected his offer (Brinkley, 2006). According to Brinkley (2006), the federal government was attempting to gain control of the state so they could save face by blaming the failed federal response on state and local officials. The vast majority of the governor's polled, including Jeb Bush, the President's brother, advised that they would not have relinquished control of their state's National Guard to the federal government.

On Tuesday, August 30th, at 1900 hours, 23 hours after Brown's phone call, 36 hours post-landfall and after 80 percent of New Orleans was flooded, Secretary Chertoff finally designated Hurricane Katrina an Incident of National Significance (Brinkley, 2006, p. 632). Although this designation finally released critical federal support, the personnel and resources would not begin arriving in the region for several more days.

Instead of waiting for the federal government to rescue people, local boat owners, average citizens, area first responders and the U.S. Coast Guard took action to save lives. As news reports circulated images of the immense suffering in New Orleans, emergency responders, private corporations and foreign countries from around the world began mobilizing supplies to help the rescue and recovery efforts in New Orleans (Dyson, 2006). Media coverage showed images of people begging for help, dead residents floating in toxic flood waters, citizens injured from the storm, and elderly people deceased in front of the Superdome from dehydration and a lack of medication. Children, families, and elderly were stranded without food, shelter, water,

sleeping gear or restroom facilities at the Superdome, Convention Center and on the Interstate. As all of this was being televised for the world to see, Michael Brown was issuing a FEMA bulletin advising emergency personnel not come to New Orleans unless requested. Brown said, "The response to Hurricane Katrina must be well coordinated between federal, state and local officials to most effectively protect life and property" (Dyson, 2006, p. 64). At the time Brown issued this statement, on Monday, August 29th, he had requested, at best, 1000 FEMA employees and no other federal resources.

Brown, along with his FEMA employees, turned away or failed to use critical assets that would have saved lives and reduced suffering. Dyson (2006) called, "[…] FEMA's refusal of assistance a forceful indictment of the federal government's gross negligence of citizen safety" (Dyson, 2006, p. 199). There were several agencies staged in the area that were not used at all or told not to enter the city. For example, the USS Bataan, a military ship that had; 1200 soldiers, helicopters, amphibious vehicles, doctors, hospital beds, food and the ability to make 100,000 gallons of drinking water a day, was never asked for help (Dyson, 2006, p. 119). FEMA and DHS would not permit the American Red Cross into New Orleans to deliver food and water; as well, they turned away 500 airboats and operators from Florida (Dyson, 2006, p. 122). These boat operators were offering to remove stranded people from flooded homes and deliver relief supplies to marooned areas. Countless offers of aid were denied; yet, it would be Friday, September 2nd, before federal resources in any sizeable quantity would arrive in the area. By Saturday, September 3rd, the Superdome was totally evacuated (Brinkley, 2006).

The federal government's incompetence, ineptitude, inexperience and complete disregard

for the victims and survivors of Hurricane Katrina was disgraceful. Leadership failures, lack of situational awareness, inadequate communications, and political infighting exacerbated the suffering and hardship of New Orleans most vulnerable citizens.

Results and Conclusions

The United States of America is the mightiest of all nations. The indomitable will of the people, the spirit of generosity, and the truest desire to protect others who lack the means or ability to protect themselves, are the greatest attributes of the citizens in this country. Americans, and for that matter, people from around the world, were shocked, saddened and desperate to help Katrina's victims and survivors. While first responders, private corporations, citizen groups and faith based organizations raced to mobilize resources, save lives and help survivors; federal officials stood in the way. When disasters overwhelm local and state level resources, an egregious federal response is not what any citizen expects; nor should they.

The research conclusively found that local, state and federal governments tasked with protecting our citizens, failed. Emergency management agencies at all levels of government were understaffed, underfunded and under trained. Known critical shortcomings in New Orleans' evacuation plans for socially vulnerable residents were not addressed by any government entity. Preparedness and response plans were not inclusive of the community's most susceptible citizens. Area emergency plans clearly indicated that the city would provide transportation to special needs residents; though, there was no clear list of who required transportation and where these citizens lived.

Social researchers concluded that systems and structures promoting social inequity must be addressed and corrected in order to prevent future catastrophic disasters. As well, disaster

planners must be more inclusive of special needs populations during plans development. Government agencies noted the importance of; sound leadership, working together in a coordinated fashion under a unified command system; ensuring interoperability and back up communications systems; developing effective emergency operations plans and defining critical resource requirements, using proactive push systems to obtain and stage resources as opposed to acquiring resources after the disaster, adequately funding emergency management positions, and ensuring each agency understands their role with preparedness, response and recovery to all hazards incidents.

Research questions one and two can be answered by noting that both, systems of social inequity and government mistrust, as well as local, state and federal failures caused socially vulnerable populations to suffer disproportionately during Hurricane Katrina. Systems of social inequity are of serious concern, and fixing such systems could potentially result in less severe implications for special needs populations during disasters. Further research would be required to ascertain practical means for solving social inequity issues. However, it can be concluded, these fixes are well beyond the scope and authority of emergency managers and disaster planners. The local, state, and federal failures experienced during Katrina, though, are well within the disaster management community's ability to address and correct.

Protecting socially vulnerable populations from suffering disproportionately during disasters, as posed by research question three, can be addressed by ensuring inclusivity during disaster preparedness plans and community development projects. Emergency management officials must work with government entities, private businesses, community leaders and citizens to determine potential risks while promoting sustainable, resilient community development projects whenever possible. Protecting people from harm's way through vulnerability

assessments, land use planning, mitigation measures, and preparedness planning will save lives and reduce the impacts of disasters.

Research revealed that socially vulnerable populations typically reside in higher risk areas as property values are more affordable. The Lower 9th Ward, for example, was prone to flooding, littered with chemical facilities, and surrounded by superfund sites. When money was available for levee repairs, it was oftentimes spent on strengthening the levees protecting wealthier communities.

Recommendation: Emergency managers and disaster planners must conduct vulnerability assessments of areas where susceptible populations reside to determine the types of risks and hazards present in the area; while, identifying solutions and plans that would prevent catastrophic outcomes during a disaster. Local emergency managers must share these assessments with public officials and community developers to address potential concerns and explain the identified solutions. Ideally, emergency managers, public officials and developers would work together to prevent building in hazardous areas.

Local, state and federal governments develop emergency preparedness and response plans. Unfortunately, as experienced in Katrina, all levels of government failed to address New Orleans most vulnerable population. Understanding the area would likely experience a catastrophic disaster that would require the evacuation and sheltering of 100,000 plus residents, most of whom were; impoverished, elderly, disabled, ill, children, single parents, families, non-English speaking or homeless, should have prompted all levels of government to have in place detailed plans, and adequate resources available for effective implementation.

Recommendation: Emergency managers and disasters planners must actively involve local officials, community leaders, special needs representatives, church groups, volunteer

agencies, community members and first responders to identify vulnerable populations and the varying types of assistance they would require for evacuation, sheltering, and medical care. For example, will they need wheelchairs, oxygen or medical aids? Emergency managers or their direct designee should work with social services and area 311 systems to develop registration systems for vulnerable populations. A developed list will help emergency managers more effectively plan for the potential needs of community members.

Recommendation: Emergency managers, public officials, the Department of Transportation, public and private bus, rail, and air services must work together to develop multi-modal evacuation plans and establish written disaster contracts with transportation organizations. As well, provisions must be made to accommodate family pets as this prevented some residents from evacuating during Katrina.

Recommendation: Emergency management officials should work with nursing homes, assisted living facilities, hospitals and ambulance services to ensure adequate evacuation plans are in place for patients and medical staff. As well, critical facilities should work with local utility companies to ensure back up power supply systems or emergency generators and transfer stations are located in areas least likely to suffer damage from the potential disaster. Due to widespread flooding, many hospitals in New Orleans lost emergency generator. This loss of power further exacerbated the catastrophic impacts of Katrina.

As noted, research concluded that many residents in New Orleans lacked trust in public officials. The failure to have and established level of trusts prevents residents from adhering to orders from authority figures.

Recommendation: Emergency managers must work with public officials and local authorities to restore community trust. Public officials must work with community leaders and

representatives to foster positive relationships. Local authorities, community leaders and disaster planners should host community awareness and disaster preparedness sessions for socially vulnerable populations. Working together to ensure community safety will build effective partnerships between otherwise strained entities. Reducing tensions before a disaster allows community members a greater ability to trust that authorities are trying to protect them. Community members will also be trained to more efficiently respond to the direction being provided and help save themselves, their families and neighbors.

Communications are critical during disasters. Inaccurate messages and dishonest media reporting caused significant delays, confusion and fear to the victims and survivors during Katrina.

Recommendation: Emergency managers and disaster planners must work with public information officers, media representatives, and government officials to ensure that the information they will deliver during a crises will be clear, concise, honest and accurate. Provisions must be made for non-English speaking residents and the hearing impaired as well. In this situation, emergency managers must identify communities that may include high numbers of residents who do not speak the language. Emergency managers or their designated officials must seek out trusted figures who can relay pertinent information to their respective community.

This research conclusively determined that systems of social inequity, lack of government trust and the failure of, and between, government agencies created immense suffering for New Orleans special needs population. Much still needs to be done to ensure a similar catastrophe never occurs on U.S. soil again. Emergency managers, disaster planners, government officials, public, private and non-profit organizations, community leaders, and citizens must work together to develop inclusive disasters preparedness and response plans.

References

Brinkley, D. (2006). *The great deluge: Hurricane Katrina, New Orleans, and the Mississippi Gulf Coast*. New York: Morrow.

Brunkard, J., Namulanda, G., & Ratard, R. (2008). Hurricane Katrina deaths, Louisiana, 2005. *Disaster Medicine and Public Health Preparedness Disaster Med. Public Health Prep*., 2(04).

Bullard, R. D. (2008). Differential vulnerabilities: Environmental and economic inequality and government response to unnatural disasters. *Social Research*, *75*(3), 753–784. Retrieved from http://www.jstor.org/stable/40972088

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches.* Los Angeles: Sage.

Cutter, Susan L., and M. Gall. 2007. "Hurricane Katrina: A failure of planning or a planned failure?" In *Naturrisiken und Sozialkatastrophen.* Munich:Spektrum Akademischer Verlag.

Dyson, M. E. (2006). *Come hell or high water: Hurricane Katrina and the color of disaster*. New York: Basic Civitas Books.

Elder, K., Xirasagar, S., Miller, N., Bowen, S. A., Glover, S., & Piper, C. (2007). African Americans' decisions not to evacuate New Orleans before Hurricane Katrina: A qualitative study. *American Journal of Public Health*,*97*(Suppl 1), S124–S129. http://doi.org/10.2105/AJPH.2006.100867

Flanagan, B. E., Gregory, E. W., Hallisey, E. J., Heitgerd, J. L., & Lewis, B. (2011). A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management, 8*(1). doi:10.2202/1547-7355.1792

France, K. (2015, October 8). *Top five US cities most vulnerable to hurricanes*. Retrieved

     April 9, 2016, from http://www.accuweather.com/en/weather-news/top-5-most-

     vulnerable-us-cities-to-hurricanes-atlantic-tropical-season/48281135

     National Oceanic & Atmospheric Administration Hurricane Research Division

Greenberger, M. (2006). Did the Founding Fathers do'A Heckuva Job'? Constitutional

     Authorization for the Use of Federal Troops to Prevent the Loss of a Major American

     City. *University of Maryland Legal Studies Research Paper*, (2006-43).

Hartman, C. W., & Squires, G. D. (2006). Pre-Katrina, Post-Katrina. *There is no such thing as a*

     natural disaster: Race, class, and Hurricane Katrina. New York: Routledge.

Hsu, S. S. (2005, September 9). Leaders Lacking Disaster Experience; 'Brain Drain' At Agency

     Cited. *The Washington Post*. Retrieved April 13, 2016, from

     http://www.highbeam.com/doc/1P2-53172.html?refid=easy_hf

Kubisch, A. (2006). Why structural racism? Why a structural racism caucus? *Poverty and*

     Race,15(6), 1-28.

Landphair, J. (2007). "The Forgotten People of New Orleans": Community, Vulnerability, and

     the Lower Ninth Ward. *Journal of American History, 94*(3), 837-845.

Powell, JA. Structural racism: Building upon the insights of John Calmore. North Carolina Law

     Review. 2008; 86:791–816.

Smith, N. (2011, December 15). Race, class, and structural inequality in Post-Katrina New

     Orleans. Retrieved April 04, 2016, from http://www.articlemyriad.com/race-class-

     structural-inequality-post-katrina/

Stein, A., & Preuss, G. (2006). Oral History, Folklore, and Katrina. In C. Hartman & G. Squires

     (Eds.), *There is no such thing as a Natural Disaster: Race, Class and Hurricane Katrina*

(pp.13-36). New York: Routledge.

United States. Congress. House. Select Bipartisan Committee to Investigate the Preparation for

and Response to Hurricane Katrina. (2006). A failure of initiative: Final report of the

Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane

Katrina. Washington: U.S. G.P.O.

United States. Department of Commerce, National Oceanic and Atmospheric Administration.

(2006). *Hurricane Katrina August 23-31, 2005: Service Assessment*. Collingdale, PA:

Diane.

United States. Department of Homeland Security. (2004). *National response plan*. Washington,

D.C: U.S. Dept. of Homeland Security.

United States Senate Report. (2006). *Hurricane Katrina: A nation still unprepared: Special

report of the Committee on Homeland Security and Governmental Affairs, United States

Senate, together with additional views*. Washington: U.S. G.P.O.

United States. White House. Executive Office of the President (2006). *The federal response to

Hurricane Katrina: Lessons learned*. Washington, D.C.: White House.

Zack, N. (2009). *Ethics for disaster*. Lanham, MD: Rowman & Littlefield.

Zoraster, R. M. (2010). Vulnerable Populations: Hurricane Katrina as a Case Study. *Prehospital

and Disaster Medicine Prehosp. Disaster Med., 25*(01), 74-78.