

SOCIAL SERVICE AGENCIES, NATURAL DISASTERS, AND VULNERABLE  
POPULATIONS

BY

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## ABSTRACT

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Since Hurricane Katrina devastated the Gulf Coast nearly ten years ago, an abundance of literature has been created analyzing the disaster. A wealth of research written, before and after the storm, shows the increased risk for marginalized communities to be impacted by disasters. Factors contributing to this risk include disadvantages associated with race, class, gender, and age, as well as geographic/spatial location, access to social support, networking systems, and a variety of other factors affecting vulnerability. There have also been analyses of programs providing aid after the storm and disaster related legislation. By using a mixture of demographic information, government websites, evaluations, reports, information from associated private agencies, and legislation, this research examines what emergency preparedness programs existed before Hurricane Katrina and were created in response, and how these programs specifically address the needs of vulnerable populations. In so doing, I explore the link between acknowledging the risk of disadvantaged populations, and utilizing the services already at their disposal as preventative measures. In short, I found that Louisiana had relatively little in terms of legislation and programs in place to protect vulnerable populations from disaster. However, in the decade since the storm hit, the city has taken great strides towards preparing those most at risk.

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## **Introduction: Social Service Agencies, Natural Disasters, and Vulnerable Populations**

When Hurricane Katrina devastated the Gulf Coast nearly ten years ago, it exposed the deep-rooted inequality in our society that many assumed had long since been erased. However, others have indicated that that inequality has been conveniently ignored and explained away, until Katrina brought it to the forefront once again, exposing to all the depth of inequality still prevalent in our society, that social scientists had warned of for years (Hartman and Squires 2006; Klinenberg 2002; Neumayer and Plumper 2007; Smith 2006). Images of the victims of the storm, many of whom were poor African Americans, flooded the media as government officials scrambled to contain the surge of political backlash that unfolded in the aftermath (Dyson 2006). Accusations of overt racism led to the question of how such a lack of response to a disaster of this magnitude could occur in the greatest country in the world. What was found by government officials and social scientist charged with answering this question led many to ask, great for whom (Center for American Progress 2005; Rechtschaffen 2005; Quinn2006)?

In the months following Hurricane Katrina, studies were released pointing to the preventable nature of the catastrophe and calling it a manmade disaster (Assistant Secretary for Preparedness and Response 2008; Rechtschaffen 2005; Fischetti 2001; Government Accountability Office 2006 [GAO 2006 from here on]; Kramer, Finegold, and Kuehn 2008; Peek and Erikson 2007; Quinn 2006; Rhoades, Mitchell, and Rick 2006; Shafer 2005; Shane and Lipton 2005; Sharkey 2007; U.S. Congress 2006; White House Department of Homeland Security and Counterterrorism 2006 [White House DHS 2006 from here on]; Winston et al. 2006). Evidence of geo-spatial segregation, blatant negligence of infrastructure maintenance, and failure of multiple government agencies to prepare, protect, and serve the most susceptible to disaster resulted in an extensive amount of research investigating what went wrong and how

another catastrophe can be prevented (Fischetti 2001; Shane and Lipton 2005). Corroboration surfaced indicating that multiple government officials knew the city of New Orleans, and particularly the areas around the Ninth Ward were at risk (U.S. Congress 2006; White House DHS 2006). The city was below sea level, much needed maintenance and repairs had been neglected on the levee systems, and simulations done all pointed to impending flooding of the city when, not if, the levees gave way (Rechtschaffen 2005; Fischetti 2001; Shane and Lipton 2005).

There were claims that President Bush's slow response to act was due to overt racism, and criticisms of the Federal Emergency Management Agency's (FEMA) failure to handle the situation led to examination of disaster aid at all levels (Assistant Secretary for Preparedness and Response 2008; Kramer, Finegold, and Kuehn 2008; Winston et al. 2006). Immediately following the storm, news reports showed a striking pattern of who was most affected by the storm, with images of poor African Americans crying for help from rooftops, paddle boats, car roofs, and expressways in the aftermath of the storm (Times-Picayune 2005a). The data supported the conclusions many made, that it was predominately poor blacks, particularly from the Ninth Ward that were affected (Center for American Progress 2005; Rechtschaffen 2005; GAO 2006; Greater New Orleans Data Center 2004; Peek and Erikson 2007; Quinn 2006; Rhoades, Mitchell, and Rick 2006; Shafer 2005; Sharkey 2007).

In popular discourse, people began to ask why one population was affected more than others, researchers from a variety of disciplines pointed to years of literature discussing the unnatural victimology of those impacted by other storms and similar disasters (Hartman and Squires 2006; Klinenberg 2002; Neumayer and Plumper 2007; Smith 2006; Wagner 1997). Study after study showed the increased risk for marginalized communities to be impacted by

disasters, pointing to a matrix of disadvantage stemming from disadvantages associated with race, class, gender, and age, as well as geographic/spatial location, access to social support, networking systems, and a variety of other factors (Hartman and Squires 2006; Klinenberg 2002; Neumayer and Plumper 2007; Smith 2006; Wagner 1997; Zakour and Harrell 2007). Pressure from the public, media, social scientists, and some government officials lead to a call for a reevaluation of federal level disaster response programs. At the same time, many government officials responded by using these events as an example of why “big government” is ineffective. Those favoring this opinion advocated a push for a decentralizing of aid, thus requiring a shift to privatized organizations based on volunteers. Others examined the effects the disaster had on the infrastructure, including health and social services and their response to the sharp increase in people in need of services both in New Orleans on places receiving large amounts of relocated evacuees, such as Houston, Texas, focusing on issues of cross-jurisdiction in providing services to internally displaced people after the storm (James and Scantlebury 2007).

Although there has been an abundance of research produced pointing to the vulnerability of certain populations to disaster and limits on access to aid after the storm (Aguirre and Turner 2004; Hartman and Squires 2006; Neumayer and Plumper 2007; Oliver and Shapiro 2007; Rubington and Weinberg 2003; Smith 2006; Zakour and Harrell 2003), there has been a lack of research looking at the systems in place to identify and protect vulnerable populations before disaster strikes. This research seeks to contribute to the existing literature by examining the ways in which vulnerable populations are defined, identified, and assisted prior to and during disasters. I investigate which emergency preparedness programs existed prior to Hurricane Katrina, which were created in response to the disaster, and how these programs address the needs of vulnerable populations. In so doing, I hope to provide a link between acknowledging the risk of

disadvantaged populations and utilizing the services already at their disposal as preventative measures.

This research seeks to find answers to several important questions. First, I look at how vulnerable populations are defined, identified, and assisted before and during disasters. Next, I identify which, if any, emergency preparedness programs and services existed prior to Katrina to identify and protect vulnerable populations in emergencies. This includes programs made specifically to deal with disasters or for vulnerable populations, as well as those programs and services that exist as part of the broader social welfare system such as TANF or Medicaid. These social service programs are included in an effort to capture programs that do not specifically mention vulnerable populations. Thus, while these populations may not be specifically named, recipients of services during disaster free periods would be classified as a vulnerable population according to the definitions described above. Consequently, I examine the utilization of these services during Katrina and those created in the years since Katrina. Lastly, I examine how the programs address the particular needs of vulnerable populations. This is vital in helping to ensure more effective distribution of services and resources needed to reduce the level of human suffering after disaster strikes.

## Chapter 1: Theoretical Background

Many studies have shown that in circumstances that would normally be considered “neutral,” or would affect everyone equally, certain groups are more negatively affected than others. For example, because of their lower socio-economic class standing in society, women are often more negatively affected by natural disasters than men. Because they are paid lower wages, are more likely to be single parents than men, and are burdened with a majority of domestic duties than men due to gender roles, women face higher rates of trauma related stress and psychological illness, slower recovery of lost resources, and a variety of other difficulties (Blaikie, Cannon, Davis, and Wisner 1994; Gault, Harmann, Jones-DeWeever, Werschkul, and Williams 2005; Laditka, Murray, Laditka 2010; Litt 2008; Neumayer and Plumper 2007; Peek and Fothergill 2008). The same is true of many disadvantaged socio-economic groups in the United States.

Vulnerability is tied to the sociological notion of conflict and inequality. However, while income and wealth are important aspects of vulnerability, a purely Marxist view of class struggle over economic resources is not enough alone. The experiences of some poor are not the experiences of all poor and not all poor are vulnerable to disaster to the same degree. Bourdieu (1986) demonstrates this in his discussion of the different types of capital, which differ by group.

However, not all people who are in a given group experience disadvantage in the same way. Many theorists in the past century have discussed the ways in which different forms of oppression, such as those experienced by women, minorities or the poor, compound to make a different, and often more magnified experience of oppression or disadvantage (de Beauvoir 2011; Collins 1990; Cooper 2010). Just like de Beauvoir and Cooper noted that the experience of one member of a group does not reflect the experience of all members of the same general group,

because each of us typically fit within multiple groups, Collins (1990) suggested in her work that to fully understand inequality based on race, class, gender, and other forms of inequality, you must understand that none exist in isolation, but rather are each a piece that composes “one overarching structure of domination” (Collins 1990). As such, different forms of oppression, such as those experienced by women, minorities or the poor, compound to make a different, and often more magnified experience of oppression or disadvantage (de Beauvoir 2011; Collins 2010; Cooper 2010).

A topic of key importance in this research is the issue of geo-spatial segregation and the distribution of resources by race and class. Zakour and Harrell (2003) place vulnerability and “othering” within the context of America’s history of segregation to explain how geospatial segregation contributes to vulnerability. Using social ecology theory as their framework, they conduct a study looking at the proximity of specific social service resources to neighborhoods in New Orleans with high concentrations of poverty. Their findings mirror Wallerstein’s (1974/2011) world systems theory which suggests that “spatial patterns of residence” and society as a whole reflect the larger social structure in a given society (Zakour and Harrell 2003). In other words, cities are set up with the greatest number of resources concentrated around those who are seen to contribute most to society, even if this is not actually the case (Wallerstein 1974/2011; Zakour and Harrell 2003). These people, historically white and upper-class, are those often in positions of power, and are held as the standard by which all others are measured because of their race and economic status. This space they occupy is known as the center, not necessarily because it is the geographic center, but because it is the center of activity (Wallerstein 2011; Zakour and Harrell 2003). On the other hand, those with the greatest need are focused around the periphery with fewer resources and network connections at their disposal

Wallerstein 1974/2011; Zakour and Harrell 2003). This theory will be vital to the discussion of my findings, as it provides framework for understanding how segregation played a role in Katrina, as well as pairing well with theory provided to analyze my findings.

Even though vulnerability research existed before Katrina and it was known that high concentrations of poverty in New Orleans would likely make it difficult for certain groups to leave, there was no plan in place to help residents evacuate if they did not have the means to do so themselves. President Bush's evacuation order relied predominately on individual use of privately owned transportation. However, 27 percent of residents over 100,000 people, most of whom were low income African Americans, did not own a vehicle and relied on public transportation (Renne 2005; Russell 2005; Bullard, Johnson, and Torres 2009). For those with the means to do so, one could simply rent a car to evacuate, if one was available, however many carless residents could not afford to do this (Renne 2005).

Renne (2005) discussed his firsthand experience with the lack of options for those without private transportation. Having moved to the city just weeks before the storm to start a transportation project with the University of New Orleans, Renne (2005) had been testing out the public transit system in New Orleans finding that it was not efficient in terms of time, nor was it predictable, with many people reporting waiting for hours for buses that never show up. In the days leading up to the storm, Renne listened to the radio, paying attention to evacuation information being given (2005). He was bothered by the lack of information for residents without their own mode of transportation, but when he asked what they should do, he was told their only option was to go to the Superdome, because there was no other plan to help those citizens (Renne 2005). Amtrak ceased to be of service as of Saturday, and Mayor Nagin neglected to provide any buses to help evacuation until Sunday, despite the fact that RTA had the

capacity to evacuate up to 25,000 residents per day (Renne 2005). Renne (2005) criticized the city's planning efforts, saying that if properly utilized, and with enough time, the public transit system, including public and school buses as well as trains, could have evacuated the area of nearly all of those who remained trapped in New Orleans when the storm hit.

The only alternative for stranded individuals was to carpool with friends, family, or neighbors, or go to the Superdome (Renne 2005). However, the concentrations of poverty meant that most people in the area who could not afford their own car lived in low-income neighborhoods where no one else could afford one either. Even if one did have a car, the cost of travel, housing, food, and loss of income from not working meant that they simply could not afford to evacuate either (Haney, Elliott, and Fussell 2007; Litman 2006). The fact that many impoverished residents had lived in the city their entire lives exacerbated the problem because they did not know anyone outside of the area. As a result, they had no place to go but to hotels that they could not afford to remain in for very long (Rudowitz, Rowland, and Shartzler 2006). Authorities did not consider the possibility that not everyone had access to a vehicle, knew someone who did, or had a place to go, hence the lack of alternative evacuation procedures.

Weber's discussion of bureaucracy and the iron cage, or double bind, can be of great help in understanding the failures of a variety of systems responsible in the preparation for and response to Hurricane Katrina (2010). The bureaucratic machine is a hierarchical system in which no one person has sole authority (Weber 2010). So was the case with the services that provided general social services to many vulnerable populations before Hurricane Katrina and after.



## Chapter 2: Literature Review

### *Unnatural Outcomes after Natural Disasters*

Most tend to consider disasters as unique events, separate from the everyday (Wisner et al. 1994/2003). While it is true the a hurricane, tornado, or any of a myriad of other such events we would classify as a natural disaster are not daily occurrences, these events have a way of shedding light on everyday things that often go unnoticed. Because these issues have been brought to light, research has been done examining the effects of disasters on various populations. They have shown that in circumstances that would normally be considered “neutral,” or would affect everyone equally, certain groups are more negatively affected than others (Hartman and Squires 2006; Litt 2008; Neumayer 2007; Smith 2006; Wagner 1997). This is because the impact a disaster has on society is influenced by social, economic, and political factors (Quinn 2006). For example, because of their lower socio-economic class standing in society, women are often more negatively affected by natural disasters than men are (Litt 2008).

Policies and programs designed with assumptions about the financial, social, and material resources possessed by those seeking the services, taking for granted the simple, everyday things that are daily struggles for those without. The result is victim blaming, where we ask ‘why didn’t they use the services and resources made available?’ (White House DHS 2006). We do not acknowledge that because of a long history of discrimination based on race, class, gender, and ability that not everyone is on equal footing or has the same resources, or the same level of choice in determining how to prepare for disaster (Rubington and Weinberg 2003).

Vulnerability is the concept used to describe how disadvantages affect some populations, and for the purpose of this study, more specifically, the idea that some groups are more at risk of being impacted by natural disaster, such as Hurricane Katrina (Blaikie et al. 1994; Dwyer et al. 2004; Dyson 2006; Elliot and Pais 2006; Flanagan et al. 2011; Galea et al. 2005; Gault et al.

2005; Hartman and Squires 2006; Laditka et al. 2010; Neumayer and Plumper 2007; Peacock, Morrow, and Gladwin 1997; Peacock, Gill and Ragsdale 1997; Smith 2006; Wisner et al. 2004; Zakour and Harrell 2003; Zakour and Gillespie 1998 ). It specifically addresses factors that influence to resilience of certain groups to disaster, such as socioeconomic and demographic factors, which may give them added obstacles to overcome in preparing for or recovering from a disaster (Flanagan et al. 2011). The term vulnerability can include the poor, minorities, pregnant women; young children; female headed households; non-English speakers; the elderly; people with disabilities including medical, mobility, vision, or hearing needs; those without access to transportation; or those living in areas of high segregation and concentrated poverty; and prisoners (Assistant Secretary for Preparedness and Response 2008; Hoffman 2009). Hoffman (2009) expands this definition even further by including welfare recipients and those with language barriers in the definition.

Many of those who were most affected by Katrina were low-income, African Americans, female headed households, hospital patients, and the elderly living either independently or in nursing home facilities (GAO 2006; Peek and Erikson 2007; Sharkey 2007). In short, vulnerability can include any group who is more likely to be negatively impacted by disaster in that they have higher mortality rates due to disaster and survivors have more difficulty recovering than other groups for any number of reasons (Flanagan et al. 2011). Vulnerability studies allow us to specifically examine what social factors lead to these discrepancies and take the necessary actions to reduce not just loss of economic resources, as is focused on by most disaster-mitigation policies, but to reduce the human suffering of those most at risk, through the provision of social services and public assistance (Flanagan et al. 2011).

When examining disaster management research, one will often come across the term risk in reference to the increased risk of certain populations or areas for being affected by a disaster (Flanagan et al. 2011). Risk is often calculated using hazard, vulnerability, and resources (Dwyer et al. 2004; UCLA Center for Public Health and Disasters 2006). Essentially, vulnerability increases risk, but it is not the risk itself. Risk is calculated by multiplying the difference of vulnerability minus resources by the hazard. According to the literature, where “risk is the likelihood or expectation of loss; hazard is a condition posing the threat of harm; vulnerability is the extent to which persons or things are likely to be affected; and resources are those assets in place that will diminish the effects of hazards” (Dwyer et al. 2004; UCLA Center for Public Health and Disasters 2006 in Flanagan et al. 2011:1). While this distinction may seem trivial, it is important in that while often used interchangeable, or thought to be the same, risk and vulnerability are two distinct concepts. Vulnerability generally signifies being prone to harm, which can be classified in two ways: those affecting built structures, and those affecting people (Bara 2010; Blaikie 1994). While there is often a great focus on the former, harm of people, or what is called social vulnerability, has often been left out of the equation until very recently when updates to existing software included the ability to estimate how many people would be displaced, and the number of shelters needed to support them (Alwang et al. 2001; Bara 2010; FEMA 2009a; FEMA 2009b). However, this is just one of many needed steps to adequately address this issue.

Social vulnerability involves the capacity individuals and groups have to predict, manage, defend against, and recuperate from a disaster. It is a “combination of factors that determine the degree to which” one is a risk, and includes the full cycle of events surrounding a disaster (Blaikie 1994: 9). Social vulnerability specifically examines characteristics of individuals and

groups, and looks at the variations *within* society, and how they affect people (Bara 2010; Blaikie 1994). It focuses on the capacity of every individual or group, and suggests that everyone has some capacity, to varying degrees, which is fluid (Bara 2010; Blaikie 1994). This shifts from an attitude of looking at people as helpless and gives a sense of empowerment and hope. It includes not just loss of physical possessions, or of life as a whole, but takes into consideration quality of life and one's livelihood, both of which are not included in risk (Bara 2010; Blaikie 1994). This is important in that the death toll of a disaster, or the damage to infrastructure, does not give a full and accurate picture of its impact. And finally, and perhaps most importantly, social vulnerability shows that the threat is not just those things considered to be 'an act of God', natural and unavoidable. Rather, the threat exists in our societies (Bara 2010; Blaikie 1994). It is something we create, and that we can change. This is a fundamental component to understanding the social impact of disaster on a society.

#### *Dimensions of Risk and the Nature of Vulnerability*

In one of the most in-depth analyses of social vulnerability and disaster, Klinenberg (2002) utilized a combination of fieldwork, in-depth interviews, and archival research to provide an analysis of the social conditions that lead to the deaths of over seven hundred people during the 1995 Chicago heat wave. Klinenberg (2002) examines the social, political, and institutional factors that led to the high death toll, with a large focus on figuring out why the majority of victims died home alone. In doing so he gives an in-depth look at vulnerability in Chicago, with poor elderly African-Americans being most affected. He finds that the death rates were not the same for all populations or all areas of the city, but rather many deaths were concentrated in specific neighborhoods with high crime rates (Klinenberg 2002). He notes that lack of social networks for elderly in these areas were worse because of fear of violent neighborhoods

increased their isolation (Klinenberg 2002). This was also the reason for less social support from social workers who were charged with providing these populations with public assistance programs. The issue also sheds light on our societal disregard for the poor. Most importantly, Klinenberg (2002) illustrates the large mortality rate in the wake of the heat wave is not normal, or due to the heat, but rather it is a direct reflection of existing social inequalities and flaws in the social support system for the most vulnerable in society.

### Race and Class Segregation

While Hurricane Katrina impacted many people of multiple races and ethnicities, it had by far the largest impact on low-income African American residents of New Orleans (Galea 2005). Years of institutional racism have greatly contributed to African Americans having the second highest poverty rates of all racial and ethnic groups, placing them at increased risk for disaster because of lack of the economic resources to prepare and escape (McCartney, Bishaw, and Fontenot 2013). As a result, African Americans often live in the least desirable and most disaster prone areas (Aguirre and Turner 2004; Oliver and Shapiro 2007). African Americans experience three times the amount of poverty compared to whites. The black poverty rate in New Orleans prior to Katrina was 35 percent and their median family income just over \$22,000 (Gault et al. 2005; Rhoades et al. 2006; U.S. Census Bureau 2000). In the case of New Orleans, these areas were below sea level, and thus experienced the most flooding (Elliott and Pais 2006; Gault et al. 2005).

Due to the social and economic consequences of racism, New Orleans has experienced higher racial segregation rates than other metropolitan areas in the U.S. (Fussell 2007). Decisions about where to build government subsidized affordable housing resulted in high concentrations of poverty in areas of the city most vulnerable to flooding (Elliott and Pais 2006; Gault et al.

2005; Litman 2006). Neighborhoods that were the most segregated and had high poverty levels, such as the Lower Ninth Ward, suffered the most flooding, due to being below sea level, and were in the direct path of the water that surged forward after the levees broke (Rhoades et al. 2006). African American neighborhoods experienced about 25 percent more flooding than white neighborhoods (Brazile 2006). Logan (2006) found that in the Lower Ninth Ward, which experienced the most flooding, African Americans represented between 75 and 100 percent of the population of the Ninth Ward (Logan 2006).

The concentration of poverty in areas of New Orleans most affected by the storm had experienced increased by as much as 66 percent in the decades leading up to Katrina (Berube and Katz 2005). This concentrated poverty was the result of segregation, white flight, concentration of federally subsidized housing, and the locations being most affordable because of their proximity to the levees and positioning in low-lying areas of the city (Elliott and Pais 2006; Fussell 2007; Gault et al. 2005; Katz 2005; Litman 2006; (Rhoades et al. 2006). But as Zakour and Harrell (2003) show in their study of the proximity of resources to low income neighborhoods in New Orleans, this is problematic when understanding that neighborhoods with high levels of concentrated poverty often experience a higher lack of resources than low income people in more economically diverse neighborhoods. As a result, neighborhoods with the highest concentration of poverty before the storm were those that had the highest number of residents remaining after the evacuation (Berube and Katz 2005; Brazile 2006; Fussell 2007; Litman 2006; Logan 2006; Quinn 2006). Many could not afford or were unable to leave due to lack of transportation (Berube and Katz 2005; Bullard, Johnson and Torres 2009; Haney, Elliott and Fussell 2007).

Berube and Raphael (2005) use data from the 2000 Census of Population and Housing to examine discrepancies in access to a vehicle prior to evacuation for Katrina. The findings show that New Orleans residents had less access to transportation than those in comparable cities. Twenty-five percent of residents in New Orleans lacked transportation in the five years prior to Katrina (Berube and Raphael 2005). In fact, New Orleans was in the top five metropolitan areas in the U.S. with the largest number of households without a vehicle and ranked number 10 on a list of the biggest 140 cities (Berube and Raphael 2005). Given the large number of households lacking access to private transportation, one would think that the emergency preparedness plan would have been more thorough in providing a method of escape for those who could not do so on their own. After the storm, it became apparent that the city had the capacity to evacuate many of those that were left behind, through use of buses, trains, and other services, if they chose to utilize them in a timely manner. This would have been particularly important to those residents living in poverty, who could not afford to pay for another means of exiting the city. According to Berube and Raphael, income was a significant contributing factor with 53 percent of households falling below the poverty line and twenty-six percent just above it lacking transportation (2005).

Furthermore, though significant, income was not the defining factor in who had access to transportation and who did not. Lack of transportation was particularly pronounced for African Americans in New Orleans, with twenty-seven percent having no access to private transportation (Berube and Raphael 2005). This number is approximately 8 percent higher than the national average for African Americans in the U.S. as a whole (Berube and Raphael 2005). This was largely due to income disparities due to race. This is evident by the fact that, even in poor communities, blacks are significantly less likely to have a car than are whites. In New Orleans, 52 percent of poor blacks lacked private transportation, in comparison to just 17 percent of poor

whites (Berube and Raphael 2005). Furthermore, Berube and Raphael (2005) found that children and the elderly were more likely to have a lack of transportation prior to Katrina, with children and the elderly comprising 38 percent of the population in New Orleans, and accounting for 48 percent of those without a vehicle. There was no plan in place to help residents evacuate if they did not have the means to do so themselves, nor were steps taken in the days preceding Hurricane Katrina to ensure their safe evacuation.

### Gender and Vulnerability During Disasters

The issue of vulnerability is not one unique to race and class inequality. The intersection of various inequalities is noted to increase one's risk during disaster, and for poor women of color, the risk is high (Blaikie et al. 1994). Statistically women are more likely to be impoverished than men are (Neumayer and Plumper 2007). Before Katrina, women in New Orleans experienced a higher rate of poverty than any other U.S. city (Litt 2008). Single-mothers are even worse off than men (Maximus 2002; Neumayer and Plumper 2007). According to Maximus (2002), approximately 80 percent of low-income families in Orleans Parish were single-parent households. Unfortunately, single parent households are more likely to be impoverished, with 54 percent of those in New Orleans being poor (Corcoran and Chaudry 1997; Bruyere, Burkhauser, Houtenville, and Stapleton 2005). This is because single parenthood, particularly among those never married, is most common among those with low education and lack of job skills (Zedlewski 2006).

Aside from financial difficulties, young low-income single-mothers were considered at-risk before Katrina. Women who are the primary caretakers of their families were responsible for evacuating their children and elderly parents (Drabek 1986; Peek and Fothergill 2008). Even for married women, many had to deal with these responsibilities alone while their spouse worked



(Laditka et al. 2010). Lack of financial resources and support of a spouse, many single mothers rely on a strong social support system of neighbors, families, and friends.

#### Other Vulnerable Populations

Lack of social support and economic resources were also an issue among the elderly and disabled before Katrina. Approximately 11 percent of those who lived in New Orleans in 2004 were 65 or older and 20 percent of them were poor (Bruyere et al. 2005). Often with age comes physical ailment, however, with fifty-six percent of the elderly population in New Orleans being disabled in some capacity in 2004, this was a major problem for the elderly in this area (Bruyere et al. 2005). This is likely attributable to the high poverty rates, which are shown to contribute to poor health (Bruyere et al. 2005; Russell M. 2005; Smith and Kington 1997). This made evacuation even more difficult for a population already at risk because of their economic status. As previously noted, the evacuation warning relied heavily on individuals being able to find their own transportation out of the city, regardless of their situation, which means there were no other alternatives available to help the disabled (Russell, M. 2005).

According to the U.S. Census Bureau (2004), approximately 10 percent of New Orleans' population ages 16 to 64 were disabled, which is similar to that of national averages. This meant there were up to 32,000 people with disabilities in the city that needed to evacuate. Unfortunately, studies show those with disabilities are much more likely to be impoverished than the general population, due to lower or absent incomes, and similar factors. Although statistics for New Orleans are unavailable, those for the state show that in 2002, 27 percent of individuals with disabilities lived in poverty. If 27 percent of individuals with disabilities also lived in poverty in New Orleans, it would mean 8,500 people who were disabled and impoverished would have been at risk of being stranded in the city when Katrina hit (Bruyere et al. 2005).

Those with disabilities are particularly vulnerable because, aside from any mental or physical challenges they may have, as a group people with disabilities tend to be older and less educated. In Louisiana, about one third of those with disabilities were between 50 and 60 years of age. This is about 15 percent higher than for those without disabilities. Many of these people did not complete high school, and only a third of them were employed (Bruyere et al. 2005).

### *Timeline of the Storm and Government Preparations*

Unlike most natural disasters that strike without warning, the possible disaster scenario in New Orleans was predicted at least three times, years before the storm struck. The first prediction of such an event resulted in Congress granting the U.S. Army Corps of Engineers (USACE) \$12 million to do a thorough examination of how to better protect New Orleans from a Category 3 or higher hurricane; a study that six years later has not even started (Rechtschaffen 2005). The second prediction came in 2001, when FEMA ranked a Hurricane hitting New Orleans as one of three most likely disastrous scenarios to happen in the U.S. (Rechtschaffen 2005). Despite the fact that FEMA responded to this with the creation of the Southeast Louisiana Catastrophe Hurricane Planning Project to address the issue, and provided funding, nothing was done until July 2004 (Assistant Secretary for Preparedness and Response 2008; Center for Progressive Reform 2005; Fischetti 2001; Shane and Lipton 2005; U.S. Congress 2006; White House DHS 2006). At this point a meeting was held to show the Louisiana Office of Homeland Security and Emergency Preparedness (LOHSEP) and FEMA shortfall of the existing plans, and while this was an important first step, no alternative plans were suggested in the time between that meeting and the one held one year later, only months before the storm (Assistant Secretary for Preparedness and Response 2008; Center for Progressive Reform 2005; Fischetti 2001; Shane and Lipton 2005; U.S. Congress 2006; White House DHS 2006). And the third prediction came

just one year prior to Hurricane Katrina, when the USACE predicted a Katrina like outcome if a storm hit New Orleans (Committee on Homeland Security and Governmental Affairs [CHSGA] 2006; FEMA 2004; Rechtschaffen 2005; U.S. Congress 2006; White House DHS 2006). The latter was done during a simulation of a category 3 hurricane hitting the city, referred to as “Hurricane Pam” done by FEMA and the Innovative Emergency Management Company (IEM), as part 1 of the development of the “Southeast Louisiana Catastrophic Hurricane Plan” (CHSGA 2004; FEMA 2004; Rechtschaffen 2005; White House DHS 2006). The simulation estimated that such a storm directly hitting the city would result in over 60,000 deaths, and close to 400,000 injured due to flooding (CHSGA 2004; FEMA 2004; Rechtschaffen 2005; White House DHS 2006). The city and regional emergency plans also foresaw the impending problems of Hurricane Katrina and described them in the emergency plans (Louisiana 2000; New Orleans 2005).

In each of these instances, officials knew that there were over 100,000 New Orleanians, most of whom were low-income, elderly, disabled, or African American, and lacked private transportation to evacuate of their own accord (Rechtschaffen 2005). Yet, funding was continuously cut, and the existing plans lacked any definitive provisions requiring the government to provide transportation to those in need of assistance, relying instead on individual evacuating in their own vehicles if they had them, carpooling, or staying in shelters (Rechtschaffen 2005). However, officials advised against remaining in shelters, acknowledging their risk for flooding and lack of adequate supplies, particularly for those with special health needs (Rechtschaffen 2005). This, paired with media images of flooded parking lots for of school buses that Nagin neglected to use to aid in evacuation efforts, and reports that officials refused an offer by Amtrak to use their trains to help evacuate the city, throws into question the legitimacy

of claims that the city lacked the resources to get those without vehicles to safety (Landrieu 2005 in Drum 2005; PBS 2005).

Similarly, various articles had been published discussing the vulnerability of residents of New Orleans for a variety of reasons, including development of wetlands acting as a natural barrier, lack of adequate levee maintenance, and the effects of the city's high concentration of poverty and high number of residents without access to private transportation (Bourne 2004; Begley 2005; Fischetti 2001). Hurricane Ivan, which hit in 2004 also highlighted the flaws of the evacuation plan and articles released immediately before and after the storm discussed the impact this could have on residents (Foster 2004). In an article written by Mary Foster (2004) of the Free Republic newspaper one woman describes her struggle to evacuate herself and her daughter saying:

Got no place to go and no way to get there... They say evacuate, but they don't say how I'm supposed to do that...If I can't walk it or get there on the bus, I don't go. I don't got a car. My daughter don't either.

At this point, it was estimated that around 100,000 residents lacked the transportation necessary to evacuate the city, and due to fears of flooding, there were no shelters set up for residents who could not leave (Foster 2004). However, despite the abundance of forewarning, there was a lack of planning at multiple levels of government, which had also been discussed in years prior to Hurricane Katrina (Renne 2005; Wolshon 2002).

Hurricane Katrina first formed as a Tropical Depression over the Bahamas on Tuesday, August 23, 2005. It strengthened into Tropical Storm Katrina on August 24<sup>th</sup> and a hurricane warning was issued in southern Florida and FEMA said they would keep an eye on the storm (DeLozier and Kamp 2005; PBS 2005). The storm continued to gain strength, becoming a Category 1 hurricane (CNN 2005a) before making landfall for the first time on Thursday, August 25<sup>th</sup>, resulting in Governor Jeb Bush declaring a State of Emergency for Florida (DeLozier and

Kamp 2005; PBS 2005). Friday morning the storm was upgraded to Category 2 (CNN 2005b) and the White House ordered FEMA, DHS, and the National Guard to prepare for the storm while they waited to see whether it would continue on its path up the East coast (DeLozier and Kamp 2005). By early evening, the National Hurricane Center announces that the hurricane has shifted its trajectory and warns that New Orleans may be hit, and that the low lying areas should be particularly wary (DeLozier and Kamp 2005; PBS 2005).

Governor Blanco declared a State of Emergency for Louisiana around 11pm, on Friday August 26<sup>th</sup>, putting the DHS emergency plan into action, which was supposed to allow for FEMA and the National Guard to start aiding the state prepare for the storm (CNN 2005b; DeLozier and Kamp 2005; Editor and Publisher 2005; FEMA 2005; Kitfield 2005; Lush 2005; Times-Picayune 2005a). At this point, the Southeast Louisiana Hurricane Evacuation and Sheltering Plan should also have been put into effect. The plan was supposed to provide some measures to help those without transportation evacuate by allowing school and municipal buses to be used as part of the evacuation (Louisiana 2000). While there was still a focus on personal responsibility and evacuation through use of private means of transportation, the plan said (Louisiana, 2000, p. 13) “The primary means of hurricane evacuation will be personal vehicles. School and municipal buses, government-owned vehicles and vehicles provided by volunteer agencies may be used to provide transportation for individuals who lack transportation and require assistance in evacuating.” Saturday morning residents of New Orleans became aware of the storm’s new trajectory as it reached Category 3 status (DeLozier and Kamp 2005; CNN 2005c; nola.com 2005; PBS 2005). At this stage, DHS and FEMA were given full approval to provide the necessary preparations while several Louisiana parishes began voluntary evacuations, resulting in congestion of outbound roadways (nola.com 2005). Max Mayfield the

National Hurricane Center director gave his first serious warning, asking New Orleans Mayor Nagin to order a mandatory evacuation (PBS 2005). Saturday night Mayfield warned Governor Blanco and Mayor Nagin that “the storm is headed right for you. I’ve never seen a hurricane like this in my 33-year career... you need to order an evacuation. Get as many people out as possible” (PBS 2005). He later said "I just wanted to be able to go to sleep that night knowing that I did all I could do," (Lush 2005).

At the same time LSU developed a computer model of the storm showing the levees being overcome and FEMA released an update recognizing that while highways and gas stations are filled with people trying to get out, approximately 100,000 people have no means of evacuating on their own (PBS 2005). Recognizing the severity of the situation, Governor Blanco went to New Orleans to talk to Mayor Nagin about the need for people to leave. However, at this stage they only gave advice on packing, and did not offer any direct advice for those without access to private transportation (PBS 2005). Mayfield gave another warning, during a conference call conference call, this time to President Bush who was on vacation in Texas (Lush 2005).

At 2 am on Sunday, Katrina reached Category 4 status, and increased to Category 5 within the next few hours and the news started expressing fears that the levees would give way to the storm (DeLozier and Kamp 2005; PBS 2005; CNN 2005d; Bradshaw 2005). Around the time the storm reached Category 5 (CNN 2007d), Mayor Nagin issued a mandatory evacuation saying that the New Orleans Regional Transit authority will provide buses in 12 locations throughout the city for those who need assistance evacuating, in compliance with the city’s Emergency Management Plan (DeLozier and Kamp 2005; PBS 2005). This should have kicked the City of New Orleans Comprehensive Emergency Management Plan into effect, which stated that:

The city of New Orleans will utilize all available resources to quickly and safely evacuate threatened areas. ...Special arrangements will be made to evacuate persons unable to transport themselves or who require specific life-saving assistance. Additional personnel will be recruited to

assist in evacuation procedure as needed. ...Approximately 100,000 citizens of New Orleans do not have means of personal transportation (New Orleans 2005).

Also part of this plan is the city's partnership with the Transit Authority (RTA) which requires that their drivers evacuate the city with agency buses and vehicles, carrying their families and anyone who is need of transportation (Litman 2006). The goal is to protect both the agency's vehicles and people from any flooding or other damage caused by storms (Litman 2006).

At this point, it was apparent that everyone was aware of the impending danger when was Nagin quoted by the Times-Picayune as saying that "We're facing the storm most of us have feared". Yet, neither of the two plans quoted above seem to have been put into motion (Murdoch 2005). Not long after Mayor Nagin declared the emergency evacuation, Governor Blanco requested relief funds from the President (DeLozier and Kamp 2005). That afternoon the National Weather Service/National Oceanic and Atmospheric Administration warned that the storm will result in most of the city being "uninhabitable for weeks...perhaps longer... Persons, pets, and livestock exposed to the winds will face certain death if struck" (PBS 2005; National Weather Service 2005). Again, people were reminded that over 100,000 residents did not own cars (PBS 2005). The stress of the storm was showing at this point, as the Rapid Transit authority buses citizens to the Superdome which had 30,000 people, and only enough supplies for 15,000 for 3 days, and the National Guard receives only 100 out of the 700 buses it requested from FEMA (O'Brien and Bender2005; PBS 2005). The Coast Guard was on standby to respond after the storm (PBS 2005).

By around 6 am Monday, August 29<sup>th</sup>, Katrina made landfall as a Category 4 (CNN 2005e) and the eye of the storm reaches New Orleans by 8am, despite the belief by officials that the city has avoided being directly hit (DeLozier and Kamp 2005; PBS 2005). At 8am Mayor

Nagin says that there was water flowing over the levees, and FEMA and the White House was notified of a breach (Bradshaw 2005; PBS 2005). Criticisms of the delayed response during the storm say that President Bush and several other key figures were at numerous events throughout the day, despite the events going on in New Orleans (Knoller 2010; Drinkard and Brook 2005; thinkprogress.org 2005). That afternoon the President declared an Emergency disaster for Louisiana and Mississippi, which was supposed to give the funding for more response, and the National Guard was called in (DeLozier and Kamp 2005; Bush 2005; U.S. Congress 2006). However, either the resources never arrived or they were not enough because by 8pm Governor Blanco put in another request with the President (Thomas 2005). Some FEMA officials said that at this time they were waiting for orders thinking that something should be done, but that they never came (PBS 2005).

During and even after the storm, many government authorities seemed unaware of what was happening. President Bush thought the storm had missed New Orleans, and thanked Michael Brown and others for their great job of making the necessary preparations (DeLozier and Kamp 2005; Hsu Glasser 2005; PBS 2005). Other officials, also stated that they were pleased with the preparations and performance of officials at all levels before, during, and after Hurricane Katrina struck, before realizing the severity of what had happened (*Time Magazine* 2005)

Similarly, Michael Chertoff appears oblivious to the entire situation, stating that no one could have predicted that this would happen in New Orleans, despite the warnings in the years leading up to the storm, and those by Max Mayfield and LSU in the days and hours before landfall (CNN 2005g).Chertoff and Michael Brown also claimed to have been unaware of the levee breach until midday Tuesday despite the president being aware, and the fact that both had



been notified Monday morning, and thus the National Response Plan is not fully activated until Tuesday (Alhers 2006; DeLozier and Kamp 2005; CNN. 2005f.). Chertoff said the next day that he was “extremely pleased with the response of the government” (Krugman 2007). Michael Brown was also oblivious to the awful conditions in the convention center, spending hours out to dinner while receiving urgent phone calls for help (CNN 2005f; Horne 2006/2008). Worst of all, on September 3<sup>rd</sup>, President Bush claimed that Governor Blanco never declared a state of emergency until Saturday (Roig-Franzia and Hsu 2005), despite documentation of her multiple requests for aid (CNN 2005b; DeLozier and Kamp 2005; Editor and Publisher 2005; FEMA 2005; Kitfield 2005; Lush 2005; Times-Picayune 2005a; Thomas 2005). However, this does not explain why it was not until Monday, that he declared a State of Emergency and sent aid (DeLozier and Kamp 2005; Bush 2005; U.S. Congress 2006). And what aid was sent at that point was sparse enough that Blanco called again on Wednesday, trying to request more aid (Thomas 2005). However, instead of getting help, she was transferred around the White House for some time before eventually speaking to the Home Land Security advisor, who was of no help (Thomas 2005). As a result, Blanco was forced to call back yet again hours later, this time demanding to speak to the president because aid still had not been sent (Thomas 2005).

Wednesday afternoon President Bush finally gave his first statement about the storm, declaring it a ‘major disaster’ (FEMA 2005b). It was not until September 1, two days after the storm hit, that Mayor Nagin finally put in a request for 500 buses to help with evacuation.

Following the storm, when asked why more public transportation was not provided, city officials pointed to a lack of vehicles and drivers available to evacuate the city (Litman 2006; PBS 2005; Perry 2005). This suggests that such plans need to not only plan for use of these resources, but also declare drivers essential personnel, who would be required to work during

emergencies, for the purposes of evacuation, rather than leaving by themselves (Litman 2006; Fussell 2006). This is a common practice for staff such as doctors, nurses, and police officers, and should also be applied to drivers of buses needed during evacuations (Fussell 2006)

According to Litman (2006), there were 500 buses provided prior to the storm. Litman (2006) said that the city would have needed over 2,000 buses to evacuate all those who lacked their own transportation, but this is working under the assumption that everyone had to be evacuated all in one trip. He proceeded to say that if the evacuation had started sooner, with priority given to these buses there would have been more than enough time to evacuate everyone, thus saving lives, trauma, and reducing crowding in the Superdome and other emergency shelters (Litman 2006). Instead, Preston (2005) said that in addition to the lives lost, and the damage that was done to the city as a whole, millions of dollars in damage was done to public buses that sat unused during the evacuation and were subsequently ruined by the flooding.

It is also important to note that evacuation was not easy for those who had vehicles either. The mass amount of people leaving the city all at once resulted in gas shortages and horrible traffic, which actually deterred some who could evacuate from leaving. This problem was not unique to Hurricane Katrina, or New Orleans. Foster (2004) described the same situation occurring during the evacuation of New Orleans one year earlier when Hurricane Ivan struck, while others described the evacuation of parts of Texas during hurricane Katrina (Blumenthal 2005; Litman 2005; Sallee 2005; New York Times 2005). Litman (2006) said that it took some drivers in Texas as long as 20 hours to evacuate prior to Hurricane Rita.

Following Hurricane Katrina, many officials blamed its devastating impact on people's reluctance to leave when evacuations were first announced. Governor Blanco and several other government authorities have been quoted as saying that it was the fault of the victims, that they

are responsible for their own misfortune because they decided to play “hurricane roulette” (Leger 2012; Nola.com 2005; *Times-Picayune*. 2005b; U.S. Congress House of Representatives 2006; White House DHS 2006). Many also believe that residents chose to stay behind in an attempt to protect their homes, an asset that would have been costly to lose thus, they ignored the evacuation orders, refusing to leave their homes. However, while there were some for whom this was the case, an overwhelming amount of research suggests that this is not the biggest reason for the storm’s effects on the people of New Orleans. As the focus of this study has demonstrated, vulnerability played a key role in determining who did or did not evacuate, and the means through which they left.

Fussell’s (2006) research examines the difference between evacuation patterns according to social stratification, using some of the same ‘vulnerabilities’ examined in this paper. In her discussion on class stratification, Fussell (2006) concludes that many low-income residents could not evacuate because of a lack of resources, and network connections. These obstacles limited the options available to residents, leaving many without the choice to stay or go, because there were no means available for them to evacuate (Fussell 2006). This was particularly true for low-income African Americans who faced a lack of resources attributable to both their race and income. This coincides with conclusions reached by many other researchers studying the effects of income, particularly in relation to race (Berube and Katz 2005; Brazille 2006; Bullard, Johnson and Torres 2009; Fussell 2007; Haney, Elliott, and Fussell 2007; Litman 2006; Logan 2006; Quinn 2006; Rudowitz, Rowland, and Shartzner 2006), and also explains why those areas most effected were those with the highest concentration of poverty, often coinciding with areas where federally subsidized housing was clustered (Katz 2005). Furthermore, Fussell (2006) states that low-income residents were also more likely to rely on the radio or television for

evacuations warnings and other related news, which further hindered their ability to evacuate early because most channels did not start to raise alarm about the storm until the last 48 hours prior to landfall. Fussell also discusses that many of the elderly and disabled who stayed behind, chose to do so because they took a calculated risk (Fussell 2006). This risk was not a game of ‘hurricane roulette’; rather it was a choice between two evils: that of taking your chances of riding out the storm, or dying from the heat and stress of evacuation, which mean up to 48 hours in bumper to bumper traffic, with limited food and water (Fussell 2006). This was particularly problematic for those with chronic health conditions who may lose access to vital medicines and other medical treatment during evacuation, and mirrors findings of other researchers studying patterns of high death rates among the elderly in natural disasters (Klinenberg 2002).

Elder et al. (2007) studied the psychosocial factors that determined whether or not people decided to evacuate New Orleans, using focus groups of African Americans. While it is true that some decided against evacuating before the storm because they believed they could ride out the storm, as they had with so many in the past, this was not the case for most (Elder et al. 2007). Rather, many were confused by inconsistent evacuation warnings, and thus were unaware of the severity of the storm (Elder et al. 2007). For those that decided to stay, their decision may have been different if they had known the risk for the levees breaking (Fussell 2006). Many others simply lacked the financial ability to leave, especially due to the fact that the storm occurred at the end of the month before people had gotten their paychecks. Thus could not afford the gas and other expenses of evacuating (Elder et al. 2007; U.S. Congress House of Representatives 2006). This finding has been supported by several other studies which have found that even if one did have a car, the cost of travel, housing, food, and loss of income from not working meant that they simply could not afford to evacuate either (Haney, Elliott, and Fussell 2007; Litman 2006).

Conversely, those who had a support system in terms of friends or family had least temporary retreat while the storm passed (Laditka, Murray, and Laditka 2010). This was made worse by the fact that many had lived in the city their entire lives, and everyone they knew did too. Such people did not know anyone outside of the area, and thus had no place to go except staying in hotels (Rudowitz, Rowland, and Shartzler 2006).

Lastly, Elder et al. (2007) found that many residents cited fear of neighborhood crime and perceived inequities due to racism as reasons for not evacuating before and after the storm. They conclude that changes to disaster preparedness plans at all levels should take into account these difficulties, and urge for more specific guidelines to ensure that residents are given evacuation orders further in advance, and are given the necessary resources such as access to public transportation, and cash or vouchers for gas and other necessities during and evacuation (Elder et al. 2007). Elder et al. (2007) also urge planners to be more culturally sensitive during the planning process, ensuring to be mindful of and sensitive to obstacles faced by the low-income, minorities, the elderly, the disabled, and other vulnerable and underserved populations, with particular attention paid to the influence of racism on evacuation decisions. Unfortunately, this vulnerability was known by many officials prior to Katrina, with even Michael Brown acknowledging it in his statement:

the mayor can order an evacuation and try to evacuate the city, but if the mayor does not have the resources to get the poor, elderly, the disabled, those who cannot, out, or if he does not even have police capacity to enforce the mandatory evacuation, to make people leave, then you end up with the kind of situation we have right now in New Orleans (Brown quoted in Roig-Franzia and Hsu 2005).

#### *Access to Social Services Prior to the Storm and Evaluation of Their Assistance Afterwards*

Following Katrina, a wealth of research emerged on preparations for and responses to Katrina (Kramer et al. 2008; White House DHS 2006; Winston et al. 2006). The White House

DHS (2006) released a report analyzing the entire process from the formation of the hurricane to the responses of FEMA and other programs in the aftermath. Winston et al. (2006) provide an evaluation of major social service programs that provided assistance to those needing aid following the storm. Many helped to lessen the burden on the already overtaxed social services system.

As I will discuss in my methodology, there was an inability to identify and protect vulnerable populations by programs such as, TANF/ Aid to Families with Dependent Children (AFDC), Supplemental Nutrition Assistance Program (SNAP), Head Start, Medicaid, Supplemental Security Income (SSI), and assisted affordable housing programs. There was absolutely nothing to suggest there had ever been such a service provided by these agencies to aid clients during a disaster. This being the case, I returned to the literature to get a better idea of how these programs were involved in the events surrounding hurricane Katrina, before re-evaluating my methodology.

I sought to examine evaluations of such services, starting with a report done by Winston, Finegold, Ruben, Turner, and Zuckerman (2006). This report provided evaluation departments and subsidiary agencies who overlook the major social service programs that provided assistance to those in need following the storm, and helping to lessen the burden on the already weighted social services system (Winston et al. 2006). I have broken up the programs explored by Winston et al. (2006) into three categories, each of which included programs receiving a combination of federal, state, and city based funding.

The first type of programs are those that provide assistance due to loss of a job or other monetary resources (namely, cash assistance given by TANF), Unemployment Insurance (UI), (which serves as general income replacement), and Disaster Unemployment Assistance (DUA),

(specifically for those who lost their jobs and were unemployed because of Hurricane Katrina) (Winston et al. 2006). Second, was the Department of Housing and Urban Development's (HUD) provision of housing assistance, which differed from the others in that even though it is a federal program, it is the only one discussed whose services are specifically distributed at the local level (Winston et al. 2006). Next Winston et al. (2006) discussed the healthcare program provided by Medicaid services.

Overall, Winston et al.'s (2006) main findings were that the combination of federal, state, and local funding resulted in what they referred to as "cross- jurisdictional complexity" (Winston et al. 2006). Cross- jurisdictional complexity means that differing guidelines for eligibility state to state, paired with confusion about who was responsible for the financial responsibility (federal, state, or local level) lead to difficulties for those trying to receive services in the aftermath of the storm (Winston et al. 2006). This problem was made more complex by the massive displacement of many residents, resulting in people leaving their place of permanent residence, and fleeing to neighboring cities and states, which made it unclear if funding was supposed to come from their place of origin, or the place to which they migrated (Winston et al. 2006). While many gulf area states were obviously stressed by the influx of those receiving services, Winston et al. (2006) showed that this was worse in some ways for places like Houston, Texas who experienced massive influxes in population after Katrina, many who never returned home. Such states did not have the budget for the additional strain on the social services system.

Furthermore, Winston et al. (2006) found that Hurricane Katrina had such long-term effect due to the extensive damage to the infrastructure in the Gulf Coast region, while the response was meant for short-term relief. This proved most problematic because most of these programs have limits on how long someone can receive services (Winston et al. 2006). Given the

impact that Hurricane Katrina had on the social welfare system due to the massive influx of eligible recipients, I was puzzled as to why there was a lack of services preparing people for disaster. My reasoning for this was that if more had been done to help identify and prepare people, say by helping with evacuations, there is a good chance that fewer lives would have been lost. Additionally, people would have been less likely to need as many additional services after Katrina. However, while I was aware of the high death toll from Katrina prior to starting this research, Winston et al.'s (2006) evaluation brought to light the fact that loss of housing and jobs had the most impact on victims. This being the case, while evacuation would have saved lives, it would have little if anything to protect the resources whose loss required people's utilization of these services.

Kramer et al. (2008) focused on Temporary Assistance to Needy Families (TANF), Housing Assistance, and Medicaid services and their efforts to aid the population served by the Administration of Child and Family (ACF). However, while there has been a great deal of research on vulnerable populations, programs involved in response to Hurricane Katrina, and evaluations of those programs' ability to cope, there is a lack of research discussing the existence, or lack of services specifically aimed at identifying vulnerable populations before Hurricane Katrina struck. Nor is there research aimed at investigating preparation for vulnerable populations as a group, rather than individual level or general plans for all members of society.

These evaluations and assessments show that the only programs found remotely related to disaster were those created in the aftermath of Hurricane Katrina. However, these services seemed to be geared towards those who were receiving services specifically because of the effects of Hurricane Katrina on their circumstances, in other words, those who were not receiving services prior to Hurricane Katrina.



Because of the degree of vulnerability of the residents of New Orleans, and the high percentage of people who would normally be considered eligible for social services, I decided to focus my research on the programs and services that would serve these populations. I became further committed to this focus once my review of the literature showed that little has been done to explore such programs' role in preparation for Hurricane Katrina. Furthermore, there is a great deal of research that supports the use of such services as preemptive measures for identifying and protecting vulnerable populations because of the fact that research shows that utilizing already existing programs is most effective in being able to access these populations (Zakour 2003). For this reason, I will fill this gap in the literature by looking at social service agencies for work, food, housing, and transportation.

### **Chapter 3: Methodology**

In order to determine which programs and services were available to vulnerable populations in New Orleans before Katrina, I utilized a multi-method approach to gathering this information, relying most heavily on content analysis for my data collection. I focused my attention on the Lower Ninth Ward in New Orleans, Louisiana. The general reason is that it was by far, one of the most devastated areas of the city after the storm. Geographically, the Lower Ninth Ward was at substantially higher risk because of its low elevation and was close in proximity to the failed levees. This automatically increases the vulnerability of everyone who lives in that area. However, the more telling part of why this area was most affected by Hurricane Katrina lies in an examination of the population that lived there.

My research focused on finding out what programs and services were available to vulnerable populations in New Orleans before Katrina, and comparing that to what was in place after the disaster. I initially planned to conduct a content analysis of government agency websites to examine the types of services available to vulnerable populations with regard to preparing for natural disasters and existing evacuation plans in place in response to natural disasters. Those departments originally proposed to look at included the Department of Health and Human Services (DHHS), the Department of Housing and Urban Development (HUD) and their relevant subsidiary agencies. However, I found the information was unavailable.

Because I was attempting to gather information ten years after Hurricane Katrina, the websites reflected the programs, services, policies, and laws that exist now, not those that existed prior to the disaster. The earliest information available, in most cases was information regarding emergency and evacuation plans and resources existed for residents of New Orleans as of 2009. Most other information was regarding resources made available in response to Katrina to deal

with the aftermath in September of 2005, or new programs that were added in 2006 and later, in an attempt to fill the gaps in service.

Though this made it challenging to find out what programs existed prior to Katrina, I had anticipated difficulties with getting information on these services, and had had acknowledged in my proposal that the websites would have likely changed over the last decade. As such, I had suggested attempting to use cached, point-in-time website content from 2005 to get access to this information. Unfortunately, when trying to do this, cached web links on Google only showed the current webpage in a basic html format, rather than showing me the website as it had appeared in the past.

Similarly, I had originally intended to look at federal, state, and local agency websites, focusing specifically on disaster mitigation and preparation to investigate whether vulnerable populations are the primary focus of a plan or policy, and which vulnerable populations are included. Thus, I shifted my methodological focus to a close analysis of evaluations, demographics, and government policy and legislation that would give me an idea of what legal provisions Louisiana had in place prior to Katrina to protect vulnerable populations. I looked at government policy/legislation using <http://www.legis.la.gov/legis/LawSearchList.aspx>, <http://www.hpm.umn.edu> , and <https://www.govtrack.us/congress/bills> to look up for changes in evacuation plans and policies, provision to allow for the creation of programs, services, and registries, etc.

First, I looked at general overarching legislation that was relevant to emergencies, such as the Stafford Act, as well as general laws, such as those regarding anti-discrimination, that might apply to vulnerable population but not specifically designed as such. I then examined legislation regarding programs and services specifically designed to advocate for, identify, and protect

vulnerable populations. To ensure I was as thorough as possible, I also looked at other literature and policy analysis related to vulnerable populations. Using SocIndex and GoogleScholar, I searched for combinations of the terms “vulnerable, special/special needs, or at-risk populations” to use as many related terms as possible to capture my population. I also looked for the terms “protection, identification, response, recovery, preparation, mitigation” to ensure I was getting the kinds of information I wanted, and the terms “emergency, disaster, hazard, and Hurricane Katrina” to get information regarding programs and policies during times of crisis.

Second, I analyzed evaluation reports issued after Katrina. Since I could find no information on the websites of agencies such as DHHS, indicating their role in providing services to vulnerable populations surrounding the events of Hurricane Katrina, conducting a content analysis of evaluations of such services helped me to ascertain the degree and method of their involvement. I focused on an evaluation done by Winston et al. (2006), which focused on housing assistance provided by HUD, as well as services such as UI and DUA, both of which served as income replacement for those affected by the storm, Medicaid health insurance, and cash assistance from TANF. I chose this evaluation specifically because of their focus on means-tested services, with the exception of their inclusion of UI. I also briefly examined a feasibility assessment done by Kramer et al. (2006) which focused on those receiving DHHS/ACF services. I looked for descriptions of services provided before, during, and after Hurricane Katrina, and finally, I included demographics of the Lower Ninth Ward to compare them to the City of New Orleans, the state of Louisiana, and when available, Orleans Parish. I included Orleans Parish because of the importance I gathered the demographic information from the American Community Survey for the year 2000, and the U.S. Census for the year 2004 and paired that with demographic information gathered and analyzed by Wagner and Edwards (2006) to draw an

accurate picture of the demographic makeup of the area. I specifically focused on gender, age, and racial composition, and family household type. I also wanted to look at socioeconomic status (SES), which is a composite variable typically comprised of income, education, and occupation. While I did not have access to data on occupation, I looked at data using the variables income, education, and homeownership to get an accurate view of socioeconomic status (SES) in the Lower Ninth Ward. Also, to supplement this, as well as tell me more about who in the Ninth Ward would have been utilizing the services, or benefited from programs I focus on in this study, I also looked at poverty level, eligibility for public assistance, access to private transportation, and population density to understand how SES in the Lower Ninth Ward compared to the rest of the city as well as state and federal levels. This is particularly important given the role of concentration of poverty that was said to have characterized New Orleans prior to Hurricane Katrina.

## Chapter 4: Findings

Overall, I found a lack of provisions to identify and protect vulnerable populations before Hurricane Katrina struck, and those provisions in place were not utilized efficiently, or in a timely manner. However, I also found that while there is still room for improvement, there have also been some great strides in improving emergency preparation and response efforts aimed at protecting vulnerable populations in the ten years since. Here, I will be discussing these changes, as well as what provisions existed before Katrina in more detail. For the purposes of clarity and organization, I have divided my findings into several subsections based on the type of information being examined, and what was found. Some sections are also included to bring attention to the inclusion of these findings, as they were not things discussed in my initial proposal, but rather have been included as my research developed, to better answer my research questions.

While my most of my findings are in reference to Louisiana or New Orleans as a whole, my first subsection, which examines the demographic makeup of the Lower Ninth Ward in New Orleans, is included to give an accurate picture of vulnerability in New Orleans, by specifically addressing those who were most vulnerable, and thus most affected. Next, I will be discussing the programs and services I found to have existed before Katrina, and those that have been created in the years since, showing the flaws in what existed previously, and the steps that have been taken to improve them. Finally, I discuss relevant policy and legislation. This has been included both to help show what legal provisions for implementation of programs and services addressing hazard mitigation and planning aimed at vulnerable populations existed, particularly given that this information was not available through agency websites, as previously proposed. It

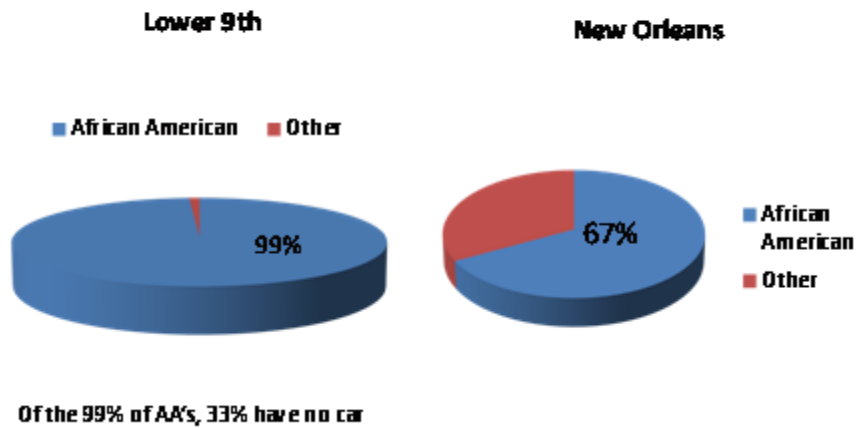
also helps to provide a foundational understanding for why many of the programs and policies did not exist, namely because there has been a lack of legal grounding for these services.

Lastly, my inclusion of legislation from states other than Louisiana is to help provide some insight as to what provisions exist in other places, and how researchers and policy makers may look at these places for examples of effective legislation to ensure vulnerable populations are cared for properly before the next disaster strikes. Then in my discussion, I will put this all in context by discussing what my findings mean for vulnerable populations in the U.S. While I discuss what services do or do not exist here in my findings, perhaps more importantly, I will discuss how and why these services have developed over the years, in response to need for more protections for the underserved in our society. In this way, I hope this research has helped to better understand how prepared we are as a society to protect those who are most in need, when they need it the most.

#### *Demographic Makeup of the Lower Ninth Ward Prior to Hurricane Katrina*

African Americans in the U.S. have suffered from high poverty rates, low educational attainment rates, and an abundance of other disparities when compared to the larger society (Galea 2005; McCartney et al. 2013; Gault et al. 2005; and Rhoades et al. 2006). African Americans in the U.S. experience three times the amount of poverty as whites, with the black poverty rate in New Orleans prior to Katrina being 35 percent, and their median family income being only just over \$22,000 (Gault et al. 2005; Rhoades et al. 2006; U.S. Census Bureau 2000). In the Lower Ninth Ward, 99 percent of the population was black, compared with 67 percent in the city as a whole, as seen in Figure 1. (US. Census 2000 SF1 P3; Wagner and Edwards 2006)

Figure 1: Racial Demographics of New Orleans and the Lower Ninth Ward

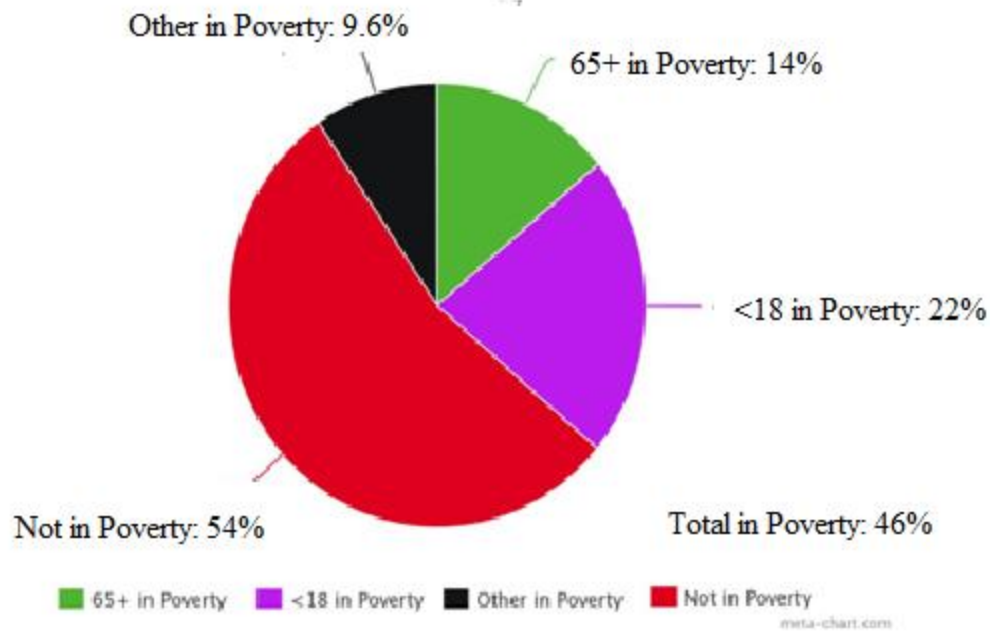


Sources: Wagner, Peter and Susan Edwards. 2006; U.S. Census Bureau. 2000.

This is indicative of the high concentration of poverty in the city prior to Hurricane Katrina. Forty percent of those residents had no high school diploma or GED, and 36 percent lived in poverty (Figure 2), with the median income in the lower Ninth Ward being only \$19,918 (U.S. Census 2000 SF3 P37; P87; P53; Wagner and Edwards 2006).



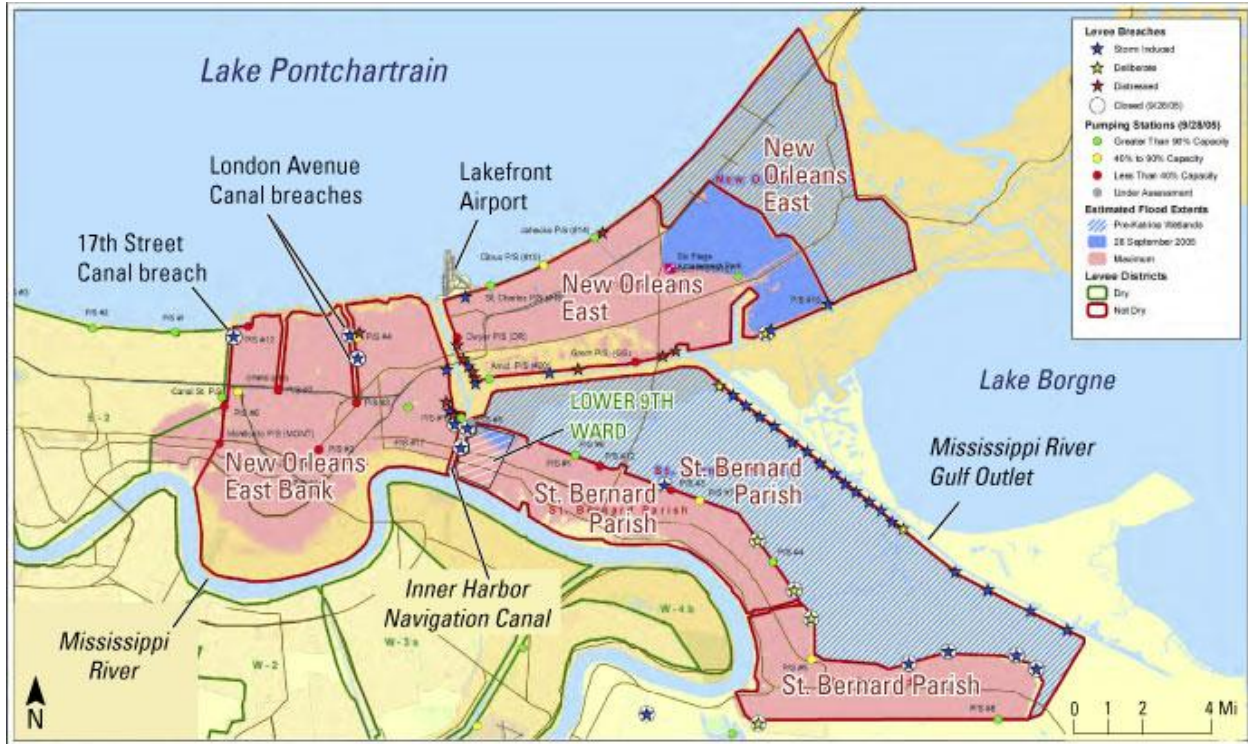
Figure 2. Percentage of Those Living in Poverty in the Lower Ninth Ward



Sources: Wagner, Peter and Susan Edwards. 2006; U.S. Census Bureau. 2000 ; U.S. Census Bureau. 2004.

This is particularly important when examining the geographic location of the Lower Ninth Ward in relation to the elevation levels in New Orleans and the location of the levee breeches, as the Lower Ninth is below sea level near some of the major breeches (Figure 3). Of those living in poverty in the Lower Ninth Ward, 31 percent were age 65 and older, and 48 percent were children (Figure 2) (U.S. Census 2000 SF3 P 87; Wagner and Edwards 2006). Of the black residents, 33 percent lacked access to private transportation, which is nearly all of those in the Lower Ninth Ward without private transportation (U.S. Census 3F3 HCT 33 B; Wagner and Edwards 2006).

Figure 3: Map of New Orleans' Lower Ninth Ward and Location of Levee Breaches.

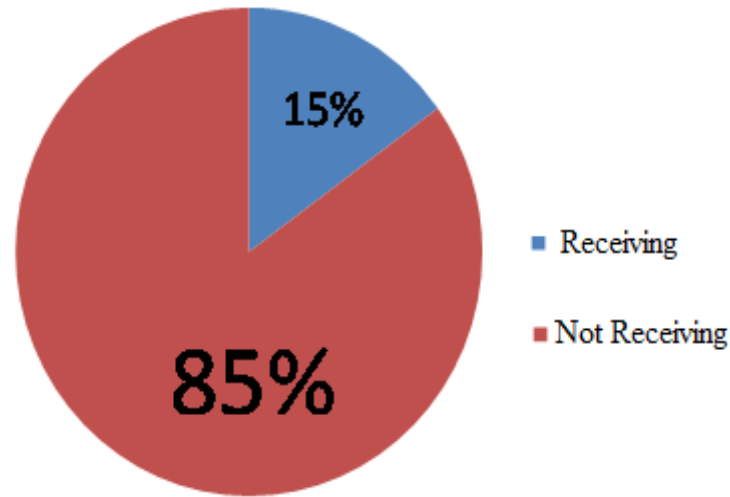


Source: U.S. Geological Survey. 2015.

<http://soundwaves.usgs.gov/2006/01/NewOrleansMapLG.jpg>

Despite the high poverty rates in the area, two things are important to note. The first is that 85 percent of those living in poverty in the Lower Ninth Ward prior to Hurricane Katrina did not receive any public assistance (Figure 4) (U.S. Census 2000 HCT 25; Wagner and Edwards 2006). However, if most of those in need of aid leading up to the events during Hurricane Katrina were not receiving assistance, this would mean that programs and services that I initially proposed to study would have been unhelpful because those most in need of those programs would not be receiving services from the agencies providing them, even if such programs had existed. However, it would have been beneficial to find out how many of those not receiving assistance, had done so in the past.

Figure 4: Lower Ninth Ward Residents Receiving Assistance



Sources: U.S. Census 2000; Wagner and Edwards 2006.

The wide discrepancy between those eligible for services based on income, and those actually receiving assistance, is indicative of the role of the regulatory nature of our social welfare system, which restricts access to assistance as much as possible (Piven and Cloward 1971). In examining the operation of social welfare systems, Wilensky and Lebeaux focused on the effect industrialization has on the development of social welfare programs (Wilensky and Lebeaux 1965). Wilensky and Lebeaux (1965) classified social welfare approaches into two different categories, each of which represented a different view of the role of government in the provision of social welfare. The first, referred to as residual social welfare, is based on the belief that “social welfare institutions should come into play only when the normal structures of supply, the family, and the market break down” (p. 138). This conception of welfare is one that has dominated in our society, and was a significant factor in the development of disaster related policies over the years leading up to Hurricane Katrina, as well as decisions made in the days before landfall, including why our system is one that is responsive in nature, rather than

preventative. It also contributed to the development of the regulation of recipients of social welfare programs as discussed by Piven and Cloward (1971), as a way of giving just enough aid for the poor to survive, without promoting laziness and idleness, a view of the poor common in the residual social welfare mindset.

Also striking, especially when considering the high poverty rate, is the incredibly high rate of home ownership in the Lower Ninth Ward prior to Hurricane Katrina. According to the U.S. Census for 2000 59 percent of Lower Ninth Ward residents owned their own home in full, and of those, 57 percent were African American (SF1 H11B; SF1 H14; Wagner and Edwards 2006). Therefore, there are two critical things to keep in mind. First, this was an area in where few people received assistance despite having a need. Unfortunately, those who were not receiving services through social service and other agencies were likely isolated from the very resources and information that could have aided in their evacuation. Second, the high level of home ownership means that prior to Hurricane Katrina; despite the lack of higher incomes, families did have an asset which was taken away by the storm, thus increasing their vulnerability.

#### *Programs and Services agency websites*

An examination of government websites and legislation found the New Orleans, and the state of Louisiana as a whole, lacked any provision for the use of these programs and services to connect those receiving assistance to the necessary services or information for assistance with emergency preparation and evacuation. Programs of particular interest would be special population registries. In several states, registries are used by social services agencies who already serve vulnerable populations, which when used by existing agencies who serve vulnerable populations, can help with identifying vulnerable populations and getting them evacuated, giving

other assistance during an emergency. They work by having people voluntarily sign up on the registry, giving their contact information so that agencies can contact them, say in the event of a mandatory evacuation, to offer help leaving if it is needed. Brief research of the U.S. as a whole (which is further explained in paragraphs 5 and 6 of my methodology section) found that relatively few states have such services. This is further confirms what Hoffman (2009) discussed in her analysis of ‘federal and state civil rights provisions, and emergency response laws’ that could possibly provide the legal obligation to protect vulnerable populations. Similarly, neither the city nor state had provisions requiring the utilization of other registries, census data, or other resources during times of emergency to help with identifying vulnerable populations, evacuate them, and provide other services to those in need of assistance, both of which have been discussed in the literature as key features of emergency preparedness for vulnerable populations.

The City of New Orleans webpage currently has links to information on disaster preparedness programs implemented after Hurricane Katrina. The main vessel for these preparedness programs is the City Assisted Evacuation Plan (CAEP) (information concerning specifics of the plan can be seen at these websites:

[http://www.nola.com/katrina/pdf/050206\\_assisted\\_evac\\_plan.pdf](http://www.nola.com/katrina/pdf/050206_assisted_evac_plan.pdf);

[http://blog.nola.com/graphics/033107\\_evacplan.pdf](http://blog.nola.com/graphics/033107_evacplan.pdf);

<http://awarity.net/Papers/NOLAHurricanePreparednessPlan.pdf>). The plan was created by a collaboration between the City of New Orleans, Edward Minyard, who is an the founder of the Response Force1 EMP team, which is a team of Emergency Management Professionals (EMP) specializing in National Incident Management System (NIMS) and the Incident Command System (ICS) (<http://www.responseforce1.com/>). It works as part of the NOLA (New Orleans,

Louisiana) Ready campaign, and operated in conjunction with the [nola.gov/ready](http://www.nola.gov/ready) website, each of which discuss in detail, what residents and officials are to do to plan for and evacuate during a disaster, including which agencies are to be involved in preparations

(<http://www.nola.gov/getattachment/Hazard-Mitigation/Hazards-and-Planning/Orleans-Parish-2010-Hazard-Mitigation-Plan-Final-032311.pdf> ). The plan features a full website

<http://www.nola.gov/nola/media/Neighborhood-Engagement/Files/Hurricane-Preparedness-2013-Season.pdf> with flow charts and other information designed to help residents evacuate, particularly during a hurricane. This is a vast improvement from the information on preparations provided before Hurricane Katrina

([http://www.tornadochaser.net/city\\_of\\_new\\_orleans\\_comprehensiv.htm](http://www.tornadochaser.net/city_of_new_orleans_comprehensiv.htm)), and as of 2009, the majority of residents expressed being satisfied with the CAEP program and its effectiveness in evacuation (Kiefer, Jenkins, and Laska 2009). Prior to 2008, residents had to dial 311 hotline to register for and use the services, however calls now go to a different office (Spain 2010).

A Special Needs registry was also established, which is intended for identifying those who may need assistance during an emergency due to a disability or chronic health condition. I surmise that the site is in response to the lack of transportation for victims of Hurricane Katrina. While a vital first step in providing greater support for vulnerable populations, there are two problems. First, the website makes a specific point of saying that the registry is not a guarantee of services, indicating that those depending on these services during an emergency may still be vulnerable. Second, this registry excludes other vulnerable populations such as low-income residents who lack access to private transportation, thus it excludes the largest portion of the population in need of its services.



A second program, Evacuspots, is for when a mandatory evacuation is declared. Residents or tourists in Orleans Parish who cannot find their own means of transportation during an evacuation can walk to any of the seventeen marked Evacuspots in the city indicated by a sign (Image 1). Here I looked at two websites, one being the city of New Orleans emergency preparedness website page specifically made for evacuation procedures (<http://www.nola.gov/ready/evacuspots/map/>). Once again, the website makes a specific point of saying that the registry does not guarantee service.

Image 1: Lit Evacuaspot Statue Post-Katrina



Source: Evacuteer.org. N.d. <http://www.evacuteer.org/evacuspot-lighting/>

The second website is Evacuteer (<http://www.evacuteer.org/>), a non-profit organization created in 2009 by volunteers in the city to act as a supplement to the City Assisted Evacuation Plan program (CAE/P), which was first implemented in 2008 (evacuteer.org; Thier 2012). Evacuteer.org works to recruit and train volunteers from the local community who work with CAE officials to help with evacuations (evacuteer.org; Thier 2012). The organization is also

responsible for the creation of Evacuspots and runs that program as well as several other programs (<http://www.evacuteer.org/>; Thier 2012). These programs include Evacukid, City Assisted Evacuation, Evacuspotlighting, and Evacuteers. Evacukids, created in 2011, educates children about emergency preparedness. They also show them how to locate Evacuspots in their neighborhood (<http://www.evacuteer.org/evacukids/>).

Evacuspotlighting ensures that Evacuspots are visible during emergencies by providing solar lighting units near the Evacuspot statues installed in 2013. These statues act as beacons during an evacuation (<http://www.evacuteer.org/evacuspot-lighting/>). The Community Partners program, created in 2013, promotes collaboration between Evacuteers and non-profit and civic engagement organizations such as Americorps, City Year, Louisiana Green Corps, and others by helping to train and manage volunteers during mandatory evacuations (<http://www.evacuteer.org/partners>).

It appears that the NOLA website (<http://www.nola.gov/ready/evacuspots/>) makes a distinction between residents and tourists, for the purpose of indicating that tourists in the city during an emergency would be able to utilize these services, despite not having signed up for them. Thus, both tourists and residents can show up to one of the clearly marked Evacuspots, tell the driver they need assistance evacuating from the city (nola.gov 2013). There they will be picked up and taken to the bus station where they will obtain city provided transportation to one of the state or federal disaster shelters (nola.gov 2013). As a result of the evacuation difficulties prior to and during Hurricane Katrina, the City Assisted Evacuation Plan (CAEP) was created as part of the NOLA Ready campaign (nola.gov 2013). This campaign shifts from the previous focus on response to a more preparedness based public safety approach. The campaign features a website with information for residents regarding disaster preparedness, containing evacuation



procedures, home preparedness, and instructions for all types of disaster. In general, City Assisted Evacuation is a public bus system for use during city-wide evacuation, and can accommodate approximately 30,000 residents during an evacuation (Antoniades 2013; <http://evacuspots.evacuteer.org/> ). The main feature of the program is called Evacuspots, which is a part of the program which has 17 spots around the city for residents to go if they need assistance during an emergency evacuation (nola.gov 2013). The program works by having residents call or go online to register for the service. The names of the residents are added to a list for use during emergencies and they are given a card with the necessary instructions for what to do during an evacuation, as well as a map of the locations to go and a flow chart to explain the process. The program was first proposed in 2006 and implemented two years later, just before Hurricane Gustave struck, providing a perfect test of the program's effectiveness. During Hurricane Gustav, an AmeriCorps volunteer named Robert Fogarty created a non-profit by the name of evacuteer.org, which acts a supplement to CAE, locating a training volunteers to help in evacuations (nola.gov 2013; Thier 2012). While Hurricane Gustav demonstrated many improvements to the city's disaster preparation efforts, it also highlighted areas for continued improvement. Fogarty noticed that the existing Evacuspots signs (Image 2) were small and unnoticeable (<http://evacuspots.evacuteer.org/> ; nola.gov 2013; Thier 2012).

## Images 2 and 3: Evacuspots Signs Pre-Katrina and Post-Katrina



Source: Goldstein, Allie and Kirsten Howard. 2013.

After seeing the difficulties residents had finding the signs during the evacuation preceding Hurricane Gustav, Fogarty thought of a way to draw better attention to the Evacuspots through the use of art (<http://www.evacuteer.org/about/>; nola.gov 2013; Their 2012). Fogarty commissioned artist Douglas Kornfeld to design the new 14-foot statues (Image 3) resembling a person hailing a cab, which were unveiled in 2013 (Antoniades 2013; <http://evacuspots.evacuteer.org/>; MacCash 2013; nola.gov 2013; Thier 2012). Kornfeld thought of the design as a universal signal to call for a ride, but also something to signify something unique to New Orleans, as the pose is the one used to ask for beads during Mardi Gras (Antoniades 2013; <http://evacuspots.evacuteer.org/>; MacCash 2013; nola.gov 2013; Thier 2012).

One leg of each statue has a plaque with evacuation instructions and rules (Image 4) (MacCash 2013). Costing only \$200,000 paid for through donations and a grant from the Centers for Disease Control and Prevention (CDC), the statues, estimated to last around 100 years, will

save money, and more importantly lives during disaster (MacCash 2013; nola.gov 2013). The sculptures will be placed at 15 out of the 17 Evacuspots in the city, with the other two having informational signs instead (MacCash 2013). Fogarty also went on to start the evacuteer.org program (Thier 2012).

Image 4: Evacuspot plaque Post-Katrina



Source: Evacuteer.org. N.d. <http://evacuspots.evacuteer.org/img/photos/evacuspot35.jpg>

Finally, the federal program United We Ride provides a variety of transportation services to the elderly, disabled, and low-income individuals ([http://www.unitedweride.gov/1\\_3\\_ENG\\_HTML.htm](http://www.unitedweride.gov/1_3_ENG_HTML.htm)). As is the case with Evacuspot, United We Ride receives support from state and local agencies. Although established in 2004, there is little mention of it in preparations for evacuation before Hurricane Katrina.

### *Policy and Legislation*

While this evaluation was extremely effective in providing an estimate of the response of social services to Katrina, it provided no information about their role in preparing populations for disaster, nor is there any discussion about vulnerable populations, despite the brief discussion of adjustments to policy to allow those using these services prior to the storm, to be able to continue doing so. Being curious as to why there were no programs of this nature, I turned my attention to legislation prior to Katrina, to find out if provisions for such services existed.

Despite the fact that the country's first piece of disaster related legislation was passed in 1849, very little of that legislation did anything to protect residents (Burby 2006; Mener 2007; Rivera and Miller 2006). Early legislation was focused on hazard mitigation, with the intent of reducing the economic effects of disaster. For that reason, I have excluded legislation pre-dating the Stafford act from this analysis. My general findings when reviewing the legislation as well as relevant analyses showed that there is a lack of laws specifically addressing all members of vulnerable population under a single piece of legislation. Most legislation prior to Katrina, was for general emergency response for the purpose of government response, and thus did not discuss specific populations.

### *General disaster related legislation prior to Katrina*

The Robert T. Stafford Disaster and Emergency Assistance Act (Stafford Act), was passed in 1988 and has been amended multiple times over the last 27 years (fema.gov 2013). The purpose of this legislation is to set guidelines for the government's city, state, and federal level emergency response to all disasters (fema.gov 2013). This act set the guidelines for emergency response for government (fema.gov 2013). It is also a vital part of understanding what happened

in the various levels of government, in the days leading up to Hurricane Katrina's landfall in New Orleans, and the decisions that lead to the catastrophe that ensued.

The Stafford Act limits the authority of the federal government by requiring state authorities to request federal assistance (fema.gov 2013). Referred to as a "pull system", this system of disaster response furthers the goal of maintaining state sovereignty (Select Committee 2005 in U.S. Congress 2006; National Association of Social Workers 2005). The Stafford Act maintains that local authorities have a unique understanding of the communities under their jurisdiction, and thus are best suited to identify and mitigate risk, plan and enact emergency plans, and know when federal assistance is required (fema.gov 2013;). However, a problem demonstrated during Hurricane Katrina, is that this system requires officials knowing when to ask for help. Unfortunately, due to a variety of factors including lack of understanding of the magnitude of the situation, or the desire to handle things without 'government interference', local officials do not always request federal assistance in time for aid to be provided in an effective manner.

Furthermore, the division between federal and state levels of government has resulted in a lack of uniform disaster related legislation. While some states have provisions in their legislation regarding the request for the declaration of an emergency and subsequent assistance, the majority of states lack any discussion of vulnerable populations in this legislation (Hoffman 2009). This legislation can take a variety of forms, starting with general anti-discrimination laws both at the federal level (which is then imposed on states), and with specific state level legislation.

Less than half of all states and Washington D.C. reference vulnerable populations in their emergency statutes. Most state legislation concerning vulnerable populations and discrimination is only general, not specific to disaster circumstance. About 15 states have antidiscrimination

provisions specific to disaster relief, which forbid discrimination based on race, religion, sex, age, economic status, and several other categories (Hoffman 2009). Only three states (Connecticut, North Carolina, and Utah) have any antidiscrimination laws that are specifically for disaster relief (State of Connecticut 2015; State of North Carolina 1977; Utah State Legislature 1999).

Four states state very generally that planning for disasters needs to include consideration for the disabled (State of California 2006; State of Rhode Island n.d.; State of Florida 2007). A few states allow for, but do not require the appointment of a state official to be responsible for assisting those with disabilities during disasters, and 3 states utilize registries of the disabled (CAL. GOV'T CODE § 8589.6(b)(2); FLA. STAT. ANN. § 252.355 cited in West Supp. 2008 in Hoffman 2009); N.Y. EXEC. LAW § 23-a cited in Hoffman 2009) Delaware, D.C., Maine, and New York are the only states that provide any extra assistance for welfare recipients or those who are low-income (State of Delaware 1997; District of Columbia 2008 ; Maine State Legislature 2004; N.Y. EXEC. LAW § 22(2)(b)(12) cited in Hoffman 2009). Then from there is specific federal level disaster legislation such as the Stafford Act and the National Response Plan directed by FEMA.

One key actor in the events before and after Hurricane Katrina was the Federal Emergency Management Agency (FEMA). Created in 1979, by President Carter FEMA was created with the intent of helping address the need for a government agency aimed at dealing with natural disaster (Rivera and Miller 2006). However, over the years, the focus of this agency has shifted in relation to the policy agenda of those in leadership.

In the years leading up to Hurricane Katrina, the agency's focused away from a focus on natural disasters and towards disasters related to terrorism (Rechtschaffen 2005). After the

attacks on the World Trade Center on September 11, 2001, President Bush created the Department of Homeland Security. This department became the government's epicenter of emergency planning, and as such, FEMA was moved under its authority (Mener 2007; Rivera and Miller 2006). The result of this shift was that though FEMA's budget doubled, more than half of that went to terrorism related hazard mitigation, and three in every four dollars of grant money from DHS did as well (Rechtschaffen 2005).

### *General laws protecting vulnerable populations prior to Katrina*

There are a variety of laws and amendments that have been passed that are intended to protect disadvantaged groups from discrimination, which though general in nature, can be applied to disaster situations. These anti-discrimination laws, such as the Equal Protection clause of the 14<sup>th</sup> amendment (U.S. Constitution 1868), the 8<sup>th</sup> amendment. (U.S. Constitution 1791); the American's with Disabilities Act (ADA), Rehabilitation act (ada.gov 2010), or title VI of the Civil Rights Act (CRA) of 1964, to name some of the most commonly used, were designed to prevent discrimination on a day-to-day basis, not during disasters (U.S. Congress 1964). This proves to be a problematic flaw in the legislation when claims of discrimination are made. As Hoffman (2009) observes, those issuing a discrimination complaint must prove that it was racially based discrimination. In a color-blind society, this proves particularly difficult as class, and other non-race related factors are used as a proxy for race (Alexander 2010; Bonilla-Silva 2006; Di Tomaso 2013). In addition, many anti-discrimination laws are intended for general purposes, not emergencies specifically. Therefore, they do not provide guidelines on what constitutes discrimination in these circumstances, short of actively barring individuals from use of services. The fact that these laws do not provide specific guidelines for emergencies makes it easier for the defense to argue that failures to protect vulnerable populations in such



circumstances is understandable and that inequality is inevitable, rather than recognizing the pre-existing structural inequalities.

*Laws specifically protecting vulnerable populations passed after Katrina*

There are several laws specifically targeting vulnerable populations during disaster response and preparation that were passed after hurricane Katrina that are worth discussing. First as previously discussed, the Stafford Act was passed in 1988 to set the guidelines for emergency response for government (fema.gov 2013). More specifically, the act grants the President the ability to declare an emergency at the request of local authorities, typically a state's governor (fema.gov 2013). The Act also allows the President to enforce regulations on the provision of aid in areas in need of support (fema.gov 2013). This adds to existing nondiscrimination laws by guaranteeing that relief is distributed "without discrimination on the grounds of race, color, religion, nationality, sex, age, disability..."(fema.gov 2013). The act also adds "English proficiency, or economic status" as added vulnerable groups included under protections, which were formerly not covered under general nondiscrimination laws (fema.gov 2013). However, while this is an important step, it is predominately focused on recovery, and thus does not really apply to preparation for disasters.

The Pandemic and All-Hazards Preparedness Act passed in 2006 as part of the Public Health Service Act, is an important piece of legislation created in the aftermath of Hurricane Katrina (Title 42 U.S.C. 2006). It specifically mentions "At-risk individuals," which are defined as, children, pregnant women, senior citizens, and other individuals who have special needs (Title 42 U.S.C. 2006). It permits, but does not require, the Department of Health and Human Services ("HHS") to create the position of "Director of At-Risk Individuals" to act as an advocate for these groups during preparation for disaster (Title 42 U.S.C. 2006). The act also,



while it does not say much on how to do so, it also need to focus on the “public health and medical needs of at-risk individuals” (Title 42 U.S.C. 2006).

While federal provisions such as the Post-Katrina Emergency Reform Act and the Pandemic and All-Hazards Preparation Act (PAHPA) were both passed in 2006, their practical application provides little more protection than before. These acts state that by law, these populations cannot be discriminated against, and therefore must be protected. However, they lack any guidelines for how states must do this, or measures to determine if this is followed.

In 2006, the position of the Disability Coordinator under the authority of FEMA was created when Congress passed the Post-Katrina Emergency Management Reform Act (U.S. Congress 2006/2015). The purpose of this position is to ensure the provision of aid and effective planning for disasters for people with disabilities by acting as an advocate in the creation of evacuation plans, disaster training, alternative emergency communication tools, accessible transportation and accessible post-disaster housing services when necessary (U.S. Congress 2006/2015). This is an important step; however, congress should consider creating similar positions to protect minorities, children, the poor, and other vulnerable populations. The 2004 “Individuals with Disabilities in Emergency Preparedness,” act, 2006 Department of Homeland Security report, and the Department of Justice (“DOJ”) all provide similar protections for disabled populations to those described above. The DOJ “Making Community Emergency Preparedness and Response Programs Accessible to People with Disabilities” Act supports local governmental bodies in their efforts to establish a voluntary, confidential registry of people with disabilities. These registries help provide individual assistance to those in need at the local level. Three states have done this, but Louisiana is not among them. While some states have similar protections, as mentioned previously, the fact that there is no federal legislation regulating such

programs means there is no uniformity about what vulnerable populations are included from state to state. States vary widely with who they include in these measures, with states like Connecticut including inmates of state institutions and children in schools, and other states extending protections to welfare recipients, other low-income residents, those with language barriers. However, many states have no such provisions at all. This also demonstrates the need for positive legislation guaranteeing the right to certain protections, rather than our emphasis on negative laws, because anti-discrimination laws are not enough, as Hurricane Katrina demonstrated. Sanctioning a registry comparable to that used for disabled populations, paired with comprehensive plans for the preparation addressing the needs of vulnerable populations, and measures ensuring the accountability of authorities for failure of these protections, would be much more successful in safeguarding adequate protection for all at-risk populations who lack the political power to advocate for themselves.

In the summer of 2014, the Department of Homeland Security Appropriations Act was introduced to Congress and is still being considered for enactment (Library of Congress 2014). Part three of the act would provide grant money to state and local programs to improve emergency management, disaster relief, hazard mapping, risk analysis, pre-disaster mitigation, and emergency food and shelter programs (Library of Congress 2014). There is no mention of specific areas the act will be applied to, which suggests funds will be available to all states. While it is important that these programs are being improved, the bill lacks clarity in defining what is meant when referring to hazard mapping, risk analysis, and mitigation. Legislation has often focused on the loss of physical resources and environmental issues, rather than the impact on human populations. There is also a lack of clarity in defining what is meant by emergency

food and shelter programs, as general social service programs have been used as emergency programs in the past (Library of Congress 2014; Winston et al. 2006).

In 2013, the Department of Homeland Security (DHS 2013 from here on) created the National Response Plan (NRP), to help in multiple stages of action for all potential domestic hazards, using a combination of federal, state, and local programs, with an emphasis on local jurisdictional response (DHS 2013). The NRP explains that one of the goals to reduce ‘vulnerability to all natural and man-made hazards’, but does not define vulnerability or allude to how reducing this vulnerability is to be achieved (DHS 2013). It is supposed to focus on different steps of the disaster process including the creation and maintenance of a plan, as well as disaster prevention, preparedness, response, and recovery (DHS 2013). However, many of the ways in which the department is supposed to handle these steps are ill defined, or lack a focus on natural disaster and vulnerable populations. The NRP is created by the collaboration of multiple agencies to assess needs, and is to be assessed and changed as necessary to accommodate legislative and other changes (DHS 2013). One change that should be made is a shift towards greater preparation for natural disasters, which impact the U.S. regularly, and thus require as much preparation and planning as possible. At present, the prevention stage focuses predominately on terrorist threats and health crises, with immunization, quarantine, surveillance, law enforcement, and disruption of illegal activities as activities listed (DHS 2013).

One of the things that should be of utmost priority in assessment is the clarity of the steps taken during enactment of the NRP, and who has what responsibilities. Furthermore, the preparedness section, while alluding to vulnerabilities of some sort, fails to specify what kind of vulnerabilities (DHS 2013). Despite saying it is supposed to prepare for disasters, the plan says that ‘Response activities take place immediately before, during and in the first few days after a

major or catastrophic disaster’, indicating a lack of steps to prevent disaster by addressing issues in the current legislation, social system, or anything else (FEMA 2014). What’s more, no clear steps for how to prepare are mentioned in any degree of detail, nor does it discuss what types of programs or services would be used for preparation, while the recovery stage specifically indicated coordination of a variety of factors including individual, private, non-governmental, and public assistance programs in this last stage (DHS 2013).

### *Louisiana*

What is most striking with regard to the existing legislation is that even with all of the legal protections, nowhere is Louisiana mentioned. There is no discussion of Louisiana policy in any evaluations of policy and legislation prior to Hurricane Katrina. In order to find an explanation as to why this was the case, I searched for relevant policy on <http://www.legis.la.gov/legis/LawSearchList.aspx>. I looked for any legislation referring to disaster preparedness, protections for vulnerable populations such as the elderly, disabled, or low-income. Despite my use of various terms and phrases discussed throughout this paper, only six results showed up. The only results were the state’s recognition of the Americans with Disabilities Act and similar legislation stating that in accordance with the ADA, all public services must provide equal access to individuals with disabilities (Louisiana State 2011a; Louisiana State 2011b; Louisiana State 2011c; Louisiana State 2013a; Louisiana State 2013b).

## Chapter 5: Discussion

My findings show that many programs and services for vulnerable populations in New Orleans did not exist prior to Hurricane Katrina. Despite the fact that there have been some major improvements made in the decade since the hurricane, there is still a lack of programs and legislation protecting and providing services specifically for most vulnerable populations. This is especially the case for low-income individuals and families. Most of what currently exists is restricted to the elderly and disabled and available at the federal, not state level. Even when state protection is provided, these protections vary across states, due to differences in funding levels and the role of politics and differing priorities. As a result, some states have less comprehensive measures than others do. For instance, Louisiana's accommodations for vulnerable populations have consistently been considered some of the lowest in the country since before Hurricane Katrina, a conclusion that is further supported by my review of relevant legislation. Louisiana either lacks the funds allocate to such services, or providing these services was not a high priority before Hurricane Katrina. Because of the U.S.'s history of social services and its resistance to a stronger welfare state (Piven and Cloward 1971; Titmuss 1965; Axinn and Stern 2008), it is most likely that priority has not been given these programs even when funds could have been made available.

When looking at the events surrounding Hurricane Katrina, it is important to also examine the history of social welfare in our country. As Weber (2010b) observed, our country's Protestant roots and the influence of Calvinism, in particular, have resulted in a society that encourages work and the accumulation of wealth. As a result, our entire social welfare system is set up to encourage this. Piven and Cloward's (1993) research reaches the same conclusion, when they show the regulatory nature of our welfare system which expands to accommodate

more during economic hardship, to prevent revolt of the poor working classes, and then contracts again during times of economic prosperity, to encourage hard work and discourage idleness. This has resulted in controlled and limiting social policy throughout most of our history.

Notions of “less eligible” and “deserving” versus “undeserving” are important to keep in mind when discussing vulnerable populations (Titmuss 1965; Piven and Cloward 1993). Due to our history as a former British colony, our conceptions of social welfare have been heavily influenced by their early attitudes towards the poor. Historically and still today, many who are vulnerable, particularly those who are poor and seeking government assistance, were stigmatized as lazy individuals who were poor because they refused to work. As a result, the English Poor Laws were passed as a way to distinguish between those who were poor due to unfavorable circumstances, and those who were thought to be poor by choice (Axinn and Stern 2008; Titmuss 1965). This is referred to as the dichotomy of the “deserving” versus the “undeserving. It was accepted that anyone who was capable of doing do, was expected to work. However, for some individuals, the elderly, young children, and the disabled, it was recognized that it would be unfeasible to expect them to work, and therefore if they were poor, it was through no fault of their own, thus they were labeled “deserving” (Axinn and Stern 2008; Titmuss 1965; Wilensky and Lebeaux 1965). This dichotomy renders irrelevant issues of unemployment, underemployment, and low work wages, making poverty an individual issue, rather than a social one (Axinn and Stern 2008; Titmuss 1965; Wilensky and Lebeaux 1965). It also stigmatizes the poor by labeling them as deviants for “choosing” to cast aside society’s value of hard work. This dichotomy has led to the two major conceptions of social welfare referred to as residual and institutional welfare.

According to residual welfare, “there are two natural channels through which an individual’s needs are met”, the market and the family (Wilensky and Lebeaux 1965: 159). Thus residual welfare supports the idea of individual and familial responsibility, holding that those who can provide for themselves, and any unmet needs be filled by family (Wilensky and Lebeaux 1965). Furthermore, the social welfare system should only come into play in the event that these two channels fail, responding after failure, rather than working to prevent it (Wilensky and Lebeaux 1965). As a way of distinguishing between the deserving and undeserving, and limiting the amount of aid given, the residual system uses a selective, means-tested methods of distributing aid to those deemed deserving; however recipients still face the stigma of receiving ‘charity’ or living on the ‘dole’ (Wilensky and Lebeaux 1965). Even so, the state does not provide this aid because it accepts the flaws of the market, but rather as a means of preventing an uprising of the poor, by providing aid in the most difficult of economic times (Piven and Cloward 1993). This view of the poor, and those fall under the category of the “undeserving,” as well as the strong belief in the ability of the market to provide for all, has resulted in a lack of protective legislation until recently (Axinn and Stern 2008; Titmuss 1965; Piven and Cloward 1993).

This system of control – rewarding the rich, and punishing the poor—is important to consider when explaining why there has been such a gap in the provision of programs and services to help vulnerable populations. Prior to Hurricane Katrina, many vulnerable populations were likely considered failures in our society. The poor have historically been looked down upon in our country, and as a result have been given little assistance, often under strictly regulated circumstances, and with accompanying stigma (Axinn and Stern 2008; Piven and Cloward 1971). This paired with the fact that because of our history of slavery and other forms of racism

leading to disproportionate numbers of African Americans being impoverished, and women's oppression adding to this many of those populations most at risk in our society do not get the necessary social support. Whether this is a result of overt discrimination or an unintended consequence of a functionalist system of regulation, the ideologies of our society which shape social policy, and thus services provided to vulnerable populations, have erred on the side of limited support for only the most deserving in society, and the population in question doesn't fit this mold.

To further understand this lack of programs and the concepts of vulnerability and risk when analyzing the effects of natural disaster, within a historical and social context, means looking at this structure of domination. Society is structured around these forms of domination and oppression, leaving a lasting imprint on society, long after we think these forms of oppression have ended. In suggesting we examine the "ghostly aspects" of our society, Gordon (2010), alludes to the ways in which these systems of domination persist.

One of the most haunting ghosts of America's past and another aspect of vulnerability that is critical to understanding the disaster in New Orleans caused by Hurricane Katrina is the idea of geospatial segregation. It is vital to understand how the built environment played a role in the impact that Hurricane Katrina had on residents of New Orleans, and realize the importance of this as an example of environmental racism, and a major social justice issue. The demographics discussed above show the extent of the effects that geographic segregation had on residents of the Lower Ninth Ward. There are several theories that can be used to explain why segregation plays such a vital role in determining vulnerability. Zakour and Harrell (2003) discuss how urban social ecology theory suggest that "spatial patterns of residence" and society as a whole reflect the larger social structure in a given society (Park 1926/1975 as cited in Zakour and Harrell



2003). America's long history of racism, combined with other factors such as migration has resulted in high levels of segregation in urban communities. This was especially true of New Orleans, which prior to Katrina had the highest levels of segregation of any metropolitan area in the country (Fussell 2007). Older urban areas typically have poor infrastructure, with high levels of concentrated poverty, and few resources. This is due to a variety of factors. Housing segregation, both institutionalized through legal means, and those done through practices like redlining, paired with the low cost of the abandoned urban housing led to high concentrations of poor minorities in these areas (Howenstein 1996). In New Orleans specifically, many homes built in certain parts of the city were considerably cheaper as they were located below-sea level, near the levees, and were those most distressed after Hurricane Katrina due to the weakened levees.

It is important to understand how segregation affects the organization of resources. Resources are distributed along socio-demographic lines with neighborhoods that are typically white and wealthy, receiving more and better services (Peacock and Ragsdale 1997; Wallerstein 1974/2011; Zakour and Harrell 2003). The reason for this can be explained using Wallerstein's (2011/1974) world system theory in which, the dominant world economic system, capitalism, utilizes an "extensive division of labor." This division of labor is not "occupational- but geographical... That is to say, the range of economic tasks is not evenly distributed" (Wallerstein 1974/2011: 349). Rather it is organized so that those who stand to gain the most from economic transactions are located at the "core" of the system because they give the most value to the system, while those who would gain little to no benefit are located on the "periphery" (Wallerstein 1974/2011). As they have more monetary and political power, middle and upper class white neighborhoods are located in the core of a society, thus the majority of resources will

be organized around them (Wallerstein 1974/2011; Zakour and Harrell 2003). What's more, these organizations will be those with the most to offer (Zakour and Harrell 2003). Organizations providing services to low-income residents in inner city neighborhoods have few resources and fewer network connections outside of the area, which limits the distribution of resources in the area (Dash, Peacock, and Morrow 1997 as cited in Zakour and Harrell 2003). As a result, those who need services the most are the least likely to have access to them, which magnifies their already existing vulnerability to disaster (Zakour and Gillespie 1998).

Furthermore, what resources were available were poorly organized and for all intents and purposes, inaccessible for those who needed them in the days leading up to Hurricane Katrina's landfall in New Orleans. The failures of multiple levels of government to organize and communicate affectively lead to the realization of Weber's bureaucratic iron cage (also referred to as the double bind), both in regards to the preparation for and response Hurricane Katrina. Our governmental response system is set up in such a way so that it is based off of a hierarchy of authority, where no one person has sole control, and thus no one person is solely responsible. This, in effect, lead to inaction because no one at FEMA could act without express direction from Michael Brown, Michael Chertoff, or President Bush, despite the warnings from Max Mayfield and the pleas from Governor Blanco. Similarly, President Bush and FEMA officials could not enact the National Response Plan or send in the National Guard until Mayor Nagin and Governor Blanco made specific steps to declare a state of emergency and request the necessary aid. The result is that when the storm hit and criticism of the governments' response started, it was easy enough to say "well I couldn't do anything unless I was told" or "I was unaware of the situation"; basically pointing the finger at everyone else to avoid shouldering all of the blame. In this way, the events of Katrina are the prime example of the downfalls of bureaucracy in that

there was either a lack of services or proper implementation of those services to vulnerable populations prior to Katrina, which resulted in the high casualty rate and loss of property, resources. The storm resulted in the devastation in infrastructure for the city of New Orleans, resulting in a break in the bureaucratic structure of responses at the local level. This, paired with the lack of clarity in the responsibilities of federal, state, and local actors, meant that there was a delay in response by these actors while they made sense of the chaos, and rushed to put more regulations in place to try to restore order.

## Chapter 6: Conclusion

Hurricane Katrina's devastating impact on New Orleans exposed the depths of inequality in our society. While the vulnerability of a variety of populations became apparent, none was more severe than for poor African Americans in the Lower Ninth Ward, whose degree of loss is simply beyond measure. Decades of research prior to the storm documenting the way in which, "natural" disaster disproportionately affects the most vulnerable in society was mirrored by even more research showing that Katrina was the prime example of what had been warned for years (Hartman and Squires 2006; Klinenberg, 2002; Neumayer and Plumper, 2007; Smith, 2006; Peacock, Morrow, and Gladwin 1997; Peacock, Gillis and Ragsdale. 1997).

In this study, I explored yet another aspects of this vulnerability, by asking how vulnerable populations are defined, identified, and assisted prior to and during disasters. The combination of race, class, gender, and age, as well as geographic/spatial location, access to social support, networking systems, and a variety of other factors lead to such a degree of vulnerability. A review of emergency preparedness programs that existed before Hurricane Katrina, those created in response, and those that address the needs of vulnerable populations, show that many services did not exist prior to Hurricane Katrina, nor was there legislation mandating such services, but that important steps have been made to correct this. Previous literature has explored vulnerability to disaster and as well as government response and aid provided after Hurricane Katrina (Aguirre and Turner 2004; Hartman and Squires 2006; Neumayer and Plumper 2007; Oliver and Shapiro 2007; Rubington and Weinberg 2003; Smith 2006; Zakour and Harrell 2003). However, little research has explored the systems in place to identify and protect vulnerable populations before disaster strikes. This research filled that gap by examining the ways in which vulnerable populations are defined, identified, and assisted prior to and during disasters.

Using a mixture of demographic information, government websites, evaluations, reports, associated private agencies, and legislation, I investigated which emergency preparedness programs existed prior to Hurricane Katrina, which were created in response to the disaster, and how these programs address the needs of vulnerable populations. Programs included were those specifically designed for disasters, such as Evacuspot, as well as those that existed as part of the general welfare system such as TANF and Medicare. This was done with the thought that due to their status as low-income, elderly, single-parents, and other characteristics of vulnerability, most vulnerable populations would have been eligible for, and thus these social service programs were included in an effort to capture programs that do not specifically mention the term vulnerable populations. Thus, while these populations may are not specifically named, recipients of services during disaster free periods would be classified as a vulnerable population according to the definitions described above. This also met the suggestions of previous research which indicate that utilizing already existing programs is most effective in being able to access these populations (Zakour 2003). Evaluations of some of these programs were included to look at how they were used in response efforts following Hurricane Katrina. Finally, an overview of relevant legislation using existing policy analysis, as well as my own analysis using government websites, was included.

The purpose of this was to further understand the provisions in place to protect vulnerable populations and get a more thorough look at what programs existed, or did not, and why. In my review of the emergency preparedness programs that existed before Hurricane Katrina, those created in response, and how those that address the needs of vulnerable populations, I found that many types of programs and services I have been looking for did not exist prior to Hurricane Katrina, nor was there legislation mandating such services. However, over the last decade, steps

have been made to address this (DHS 2013 NRP; Library of Congress 2014; Louisiana State 2011a; Louisiana State 2011b; Louisiana State 2011c; Louisiana State 2013a; Louisiana State 2013b; Title 42 U.S.C. 2006; U.S. Congress 2006/2015).

Furthermore, while important steps have resulted in increased support for vulnerable populations, there is still a lack of programs and legislation protecting and providing services. This is especially applicable for those considered “undeserving” – low-income minorities. Future research should explore and compare the policies and programs in other states across the country. How they work with vulnerable populations during times of emergency is crucial in developing best practices. Pairing prevention and preparation with existing services and an expansion of who is “deserving” of assistance, plays a significant role in addressing the needs of communities. Policy at the federal, state, and local level needs to take into consideration the decades of research that shows how persistent inequality is harmful to everyone.

### *Strengths and Limitations*

While my examination of the demographics in Louisiana’s Lower Ninth Ward definitely helped provide perspective on the problems facing vulnerable populations during and after a disaster, this does not fully capture the full scale of vulnerability in the area because of disparities between the poverty line and the actual cost of living, means that the number of people living in poverty is almost always larger than any statistics can accurately show. This is compounded by the effect of time restrictions for receiving public assistance result in discrepancies between the number of people who are actually below the poverty line and thus eligible for services based on income, and those who actually are allowed to utilize such programs. Also, I would have liked to gather and analyze the information myself from the U.S. Census Bureau and the American Community Survey (ACS). Finally, the demographic makeup

of New Orleans, and its status of being one of the most segregated cities in the U.S., pre-Katrina, means that these findings may not be applicable to other cities.

While I had originally planned to conduct a content analysis of government and social service agency websites at the federal, state, and local levels, obstacles to this approach prevented me from doing so. As a result, I examined legislation related to services available after Hurricane Katrina in an effort to assess those that were available prior to the hurricane to piece together an idea of what programs and services were in place pre-Katrina. Examples of programs I was looking for included the use of registries by these agencies for use during times of emergency to help with identifying vulnerable populations and getting them evacuated. My search showed no such services available in New Orleans, or the state of Louisiana as a whole. Further investigation showed that relatively few states have such services. Similarly, neither the city nor state had provisions requiring the utilization of other registries, or census data and other resources during times of emergency to help with identifying vulnerable populations and getting them evacuated, provide other services to those in need of assistance.

This approach provided a wealth of information in several ways. First, despite the lack of documentation of resources that explicitly discuss programs existing prior to Hurricane Katrina, I was able to ascertain some of the programs and services that existed pre-Katrina by examining those created afterwards. By looking at the programs created after Katrina, I was able to fill in the gaps concerning the available services for vulnerable populations. Furthermore, in looking at program evaluations, official reports, and policy analyses of the services available prior to Katrina, I was able to locate programs, policies, and laws passed following Katrina. Thus, I gained insight into the lessons learned from Katrina and the priorities of the city and federal level programs both before and after the storm.

### *Implications of this research and Suggestions for Future Policy*

There are numerous steps I would suggest taking to improve our protection of vulnerable populations during disaster. First, I would suggest creating more comprehensive legislation, which is designed to protect these populations. While important steps have resulted in increased support for vulnerable populations as shown in my review of current legislation (DHS 2013 NRP; Library of Congress 2014; Louisiana State 2011a; Louisiana State 2011b; Louisiana State 2011c; Louisiana State 2013a; Louisiana State 2013b; Title 42 U.S.C. 2006; U.S. Congress 2006/2015), there is still a lack of programs and legislation protecting and providing services. This is especially applicable for those considered “undeserving” – low-income minorities.

We need to focus on the legislation provided by places like Delaware, Washington D.C., Maine, and New York, which as shown in my analysis of legislation, have implemented comprehensive disaster policies, particularly focused on the poor (State of Delaware 1997; District of Columbia 2008 ; Maine State Legislature 2004; N.Y. EXEC. LAW § 22(2)(b)(12) cited in Hoffman 2009). Future policy should specifically aim to look at ways to pair prevention with existing services to build on what already exists, as well as expand our definitions of the “deserving.” Policy needs to start taking into consideration the decades of research that shows how such persistent inequality as currently exists in the U.S. only harms us. Creating more programs specifically to serve these populations leading up to and during a disaster would be beneficial. These programs can be built into existing services as a provision for special circumstances, or can be stand alone programs that work with existing programs to help improve effectiveness. Greater uniformity needs to be put in place to guarantee these protections across all states, at all jurisdictional levels. Focus needs to be shifted away from perceived foreign



threats, and refocused on the very real threats that racial inequality, and class inequality pose to our society.

Both researchers and policy makers should explore and compare the policies and programs in other states across the country. How they work with vulnerable populations during times of emergency is crucial in developing best practices. Pairing prevention and preparation with existing services, and an expansion of who is “deserving” of assistance, play a significant role in addressing the needs of communities. Policies at the federal, state, and local level need to take into consideration the decades of research that shows how persistent inequality is harmful to everyone.

#### *Suggestions for Future Research*

Future research should compare these places, and others to see how the protections they have in place serve these populations during times of emergency, and the impacts that has on the society as a whole. Future research should look more closely at how programs such as registries may benefit the communities they serve, taking a critical look at the benefits and drawbacks of these and similar programs, to work towards a better system of emergency preparedness. Future research should seek to overcome the limitations of this research by considering how we might better approach research looking at past programs and policies, and how the findings of this study may be applied to future research on other disasters. How have we as a nation learned from this experience, what steps have we taken to prevent a similar catastrophe, or are we allowing history to repeat itself?

Research should focus on the issue of spatial-segregation discussed by Wallerstein (1974/2011) and Zakour and Harrell (2003). Their research shows the relationship that segregation has with the distribution of resources by race and class, and the events of Hurricane

Katrina demonstrated the effects this can have on society. However, this research was conducted prior to hurricane Katrina, and in the case of Zakour and Harrell focused specifically on New Orleans. Future research should look at New Orleans today to see how the city's population changed following Katrina and influenced the services in the city and their proximity to the disadvantaged, as the answer may be different today than it was 12 years ago. Future research should also explore how this relationship works in other areas to see if this is true of all metropolitan areas, or if the events of Katrina may have also influenced the distribution of services and programs in other places.

Understanding that vulnerable populations exist, and are at increased risk for being negatively impacted by disaster, requires us to reevaluate our notions of what it really means for there to be a disaster. Tireney, Lindell, and Perry (2001) suggest that literature defines a disaster as a situation which causes an increased demand that surpasses the capacity of local communities to deal with it, and thus requires quick coordination of a variety of services, both public and private, to reduce the damage done and restore communities to their normal state. However, considering the enormous economic power of the United States, it seems unlikely that we would ever lack the capability to adequately prepare for or respond to such a situation (Echterling 1997; Pearce and Leib 2005). Rather, given the frequency of disaster, and the history of disaster management in the United States, it is more likely that a disaster, especially one with such striking patterns of those affected as those in Katrina, is when a group lacks – or more accurately, is denied – the resources to deal with such an event. The result would be increased demand for services, and the need for collaboration of public and private spheres.

If we want to avoid another disaster like Hurricane Katrina, then we need to take steps to protect the most vulnerable populations in our society and make them a priority. This research

contributes to the existing literature by examining the programs, services, and legislation that are part of this. I found that despite the lack of such services prior to Hurricane Katrina, important steps have been made to provide these services to prevent future disasters. The release of a new report by RIDE New Orleans in the days leading to the conclusion of this study, demonstrated that we remain aware of the progress being made in the development of new programs and services, and are also aware of any shortcomings to address in the future.

I hope that the findings of my research can help shape future research and policy by showing the importance of vulnerability in disaster planning. In showing how we can learn from the mistakes of Hurricane Katrina, I demonstrate that if we pay close attention to the changes in legislation, and the addition of services that have followed in the years since, we can help reduce the social inequalities that lead to such unnatural disasters.

Most importantly, I hope this research has helped to demonstrate that while a hurricane or natural phenomenon is in fact natural and out of our control, the impact that it has on our society is not. The events of Hurricane Katrina were not simply those of the days leading up to the storm, but start with each decision made about the layout of the city and placement of low-income neighborhoods, contributing to a built-environment that was inherently vulnerable, and that this was known. It started with every piece of disaster and social service related legislation that was passed or denied in the years prior, and the formation of the thoughts and ideals that influenced those policies and decisions. In short, I hope that this research has shown that the impact of Hurricane Katrina was the result of many events coming together to create the perfect storm, the impact of which has disproportionately impacted those who we as a society have the greatest responsibility to protect, and it is up to us to ensure that such a perfect storm, and horrid example of environmental racism, will never occur again.

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## Appendix 1

### ACRONYMS/ List of Abbreviations

ACF = Administration for Children and Family

ACS = Annual American Community Survey

ADA = Americans with Disabilities Act

AFDC = Aid to Families with Dependent Children

CAE(P) = City Assisted Evacuation (Plan)

CDC = Centers for Disease Control and Prevention

CRA = Civil Rights Act of 1964

DHHS = U.S. Department of Health and Human Services

DHS = Department of Homeland Security

DOJ = Department of Justice

DUA = Disaster Unemployment Assistance

EMP = Emergency Management Professionals

FEMA = Federal Emergency Management Agency

GAO = Governmental Accountability Office

HUD = Department of Housing and Urban Development

ICS = Incident Command System

LOHSEP = Louisiana Office of Homeland Security and Emergency Preparedness

NIMS = National Incident Management System

NOHSEP = New Orleans Office of Homeland Security and Emergency Preparedness

NOICH = New Orleans Interagency Council on Homelessness

NOLA = New Orleans, Louisiana

NORA = New Orleans Redevelopment Authority

NRP = National Response Plan

PAHPA = The Pandemic and All-Hazards Preparedness Act, a subsection of the Public Health Service Act

SES = Socioeconomic Status

SNAP = Supplemental Nutrition Assistance Program (Formerly Food Stamps)

SSI = Supplemental Security Income

TANF = Temporary Assistance for Needy Families

UI = Unemployment Insurance