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Shawn Lin

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Hurricane Katrina and the Haitian Earthquake: Appeals for Social Responsibility in

Governmental Emergency Management

by

Shawn Lin

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Dr. Rachel Dowty

Department of Disaster Science and Management

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Louisiana State University
& Agricultural and Mechanical College
Baton Rouge, Louisiana

On August 29, 2005, Hurricane Katrina approached the American Gulf Coast as a Category 3 storm with sustained winds of up to 130 mph and caused a storm surge as high as twenty feet to race towards Louisiana. The ensuing destructive impact of the storm surge inundated New Orleans, drastically crippling a major American metropolis. On January 12, 2010, a magnitude 7 earthquake rocked Haiti and leveled the capital of Port-au-Prince, once again demonstrating the dangers of the natural world. However, by using parallels between the circumstances of these disasters, I will argue in this essay that while these events were natural occurrences of the environment, their catastrophic effects were caused by socioeconomic disparity and governmental failure due to corruption prior to these events, and then exacerbated by ineffective U.S. federal disaster response. I believe making this point is necessary because, by understanding that these factors were problematic and that human action could have mediated some of the damage wrought by these disasters, our societal ability to reduce human suffering in the face of future natural hazards can be improved. Section I of this essay demonstrates the catastrophic impact of these disasters in terms of fatalities, economic costs, and the resultant post-disaster public health problems of the survivors. For the purpose of clarity, the definition of catastrophe I will be using comes from the federal government's National Response Plan, which categorizes Catastrophic incidents as "any natural or manmade incident, which results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national morale and/or government functions."^[1] I aim to demonstrate the catastrophic nature of these events in this context because when the effects of disasters that strike American soil reach this level, the responsibility of mediating these effects is shifted away from the individual, municipal, and regional levels, and to the federal government. Similarly, the United States' hegemonic status as the dominant global power, especially within

the Western Hemisphere, means that our federal government will play a major role in the response to any catastrophic disasters abroad. Additionally, although I am writing this essay in the very recent aftermath of the Haitian earthquake, I believe the damage estimates are high enough sufficiently to account for the event's catastrophic nature. Section II will analyze how socioeconomic disparities greatly increased the chance and degree of suffering these harmful effects. Section III provides examples of how government failure prior to these events also contributed to the negative effects. Section IV examines the U.S. federal response to Hurricane Katrina and the earthquake in Haiti, with a focus on how the delayed distribution of aid contributed to the increased suffering of impacted communities and the cause of these delays. In section IV and the entirety of this essay, I will focus primarily on New Orleans and Port-au-Prince, as these cities are the most relevant to this study. In Section V, I will explain what I believe to be the root of these causes. I will conclude this essay by offering some solutions to the problems demonstrated within this work, while also conceding that some of these issues are problems of a much larger realm.

Section I: Public Health Issues

In two of the earliest books released about Hurricane Katrina, authors Jed Horne (*Breach of Faith*) and Ivor van Heerden (*The Storm*) both compared the destruction in New Orleans to that of a nuclear weapon being dropped on the city. This powerful metaphor may seem unreasonable until we realize that 1,833 lives were lost, many due to the storm surge and subsequent flooding; 81 billion dollars in direct damages were incurred, and two hundred twenty thousand New Orleans residences were damaged, with seventy thousand to eighty thousand beyond reclamation.^{[2][3][4]} The total financial loss to the region in the aftermath of Hurricane

Katrina has been estimated at two hundred billion dollars, as the loss of tourism, total population, and major businesses has severely limited the economic viability of the Gulf Coast for several years after the storm.^[5] While the immediate effects of Hurricane Katrina caused widespread damage and suffering, the earthquake that struck Haiti five years later is perhaps an even better metaphorical representation of the destructive forces of an atomic bomb. One month after the event, the Haitian Government's Civil Protection Agency estimates 212, 000 people perished in the earthquake that caused the majority of Port-au-Prince's buildings to collapse.^[6] Additionally, a study conducted by the Inter-American Developmental Bank estimates the financial damage of this earthquake will be between 7.2 and 13.2 billion dollars.^[7]

These numbers however, are just the beginning of the damage caused by Hurricane Katrina and the Haitian earthquake. In the aftermath of both, major public health problems also developed, causing immeasurable suffering for the people trying to survive in post-disaster areas. The American Red Cross estimates that 3 million people were severely impacted in Haiti, leaving the number of survivors at about 2.85 million after factoring in the estimated death toll.^[8] Additionally, between one hundred thousand and two hundred thousand people were still in New Orleans immediately after Hurricane Katrina, with an additional 273,000 evacuees living in shelters within close proximity to the city.^{[1] [3]} Because of these numbers, the impact of public health problems in these post-disaster scenarios cannot be overlooked.

The public health problems that both communities experienced in the aftermath of Hurricane Katrina and the Haitian earthquake stemmed from the widespread infrastructural destruction that occurred. The direct effects of infrastructural destruction included injuries sustained during the events and a lack of basic needs including food, water, shelter, sanitation, and electricity in the case of Hurricane Katrina. I consider electricity a basic necessity for New

Orleans, because all of America's hospitals are highly dependent on electricity to provide health services. While these direct effects pose their own inherent impacts on human suffering, the need to address these issues is magnified due to their role in creating more complex threats to community health, and because pre-existing community health problems will exponentially increase the negative impacts of these direct effects and vice-versa.

Aside from the death toll, amputation numbers in Haiti are a good indicator of the direct effects the earthquake has had on the people of Port-au-Prince. Handicap International estimates that in the two weeks following the earthquake, between 2,000 and 4,000 people have become amputees, while the Haitian government puts the number at 6,000 to 8,000.^[9] Additionally, the Pan American Health Organization estimates that its hospitals were performing between thirty and one hundred amputations per day in the same time frame.^[10] As I will elucidate in my discussion of the emergence of complex public health problems in these post-disaster scenarios, the number is bound to keep rising throughout the still on-going response process. Because of the natural differences between hurricanes and earthquakes, the number of direct injuries sustained during Hurricane Katrina was much lower, with the Center for Disease Control and Louisiana Department of Health and Hospitals reporting that 1180 people in Jefferson, Orleans, Plaquemines, and St. Bernard Parish sought medical attention for cuts, falls, and blunt trauma immediately following the storm.^[11]

Furthermore, the majority of both surviving populations were without adequate amounts of food and clean drinking water for an extended period of time. In New Orleans, basic supplies did not reach the Superdome or Ernest N. Morial Convention Center, which served as emergency shelters for the majority of people remaining in the city, for four days, while an effective food distribution program was not established in Port-au-Prince until twelve days after the earthquake

hit.^[12] Further explanation of this point is unnecessary in the framework of direct damages, as these two issues inherently imply that hunger and dehydration were pervasive in both communities. However, I will discuss the lack of food and water in the context of emergent complex public health threats below.

I categorize these threats to community health as complex because more than one of the direct effects enumerated above is a key contributor to their negative impact. An example demonstrating this complexity is the proliferation of disease-causing microorganisms, and the consequent outbreak of these diseases in human populations in the aftermath of the Haitian Earthquake and Hurricane Katrina. In Haiti, the lack of proper shelter for the hundreds of thousands of displaced survivors led to waste accumulation that contaminated much of the already inadequate supply of food and clean water that was available after the earthquake. Contamination occurs as flies become vectors for the bacteria in the accumulated fecal matter, carrying and depositing it everywhere. This spread has resulted in spikes of typhoid and shigellosis in many of the large makeshift shelters, as well as *E. coli* and *Salmonella* exposure, which has caused many survivors to suffer from diarrhea and dysentery.^[13] Because dehydration is the primary cause of fatality from diarrhea and dysentery, the negative effects of these diseases have been compounded by the lack of clean drinking water and food sources containing zinc that are necessary to treat dehydration.^[14] Additionally, the high concentrations of harmful bacteria in the makeshift shelters of Port-au-Prince will continue to increase the number of survivors requiring amputation from infections to wounds sustained during the earthquake.

The survivors of Hurricane Katrina also felt the negative impacts of microorganisms, as 18 percent of the evacuees from New Orleans at Houston's Reliant Park visited the medical treatment facility and were diagnosed with acute gastroenteritis in the two weeks following the

storm. Stool samples indicated that many of these cases were caused by outbreaks of the norovirus, which is highly contagious and easily transmitted.^[15] Norovirus is transmitted through person-to-person contact or the creation of fomites that form in crowded settings, suggesting inadequate sheltering situations and a lack of sanitation played roles in this outbreak.^[16]

Another example of complex public health threats caused by inadequate sanitation and shelter can be found by examining the flooding that occurred in New Orleans. Eighty percent of the New Orleans metro area was flooded, and many residential neighborhoods were inundated to the rooftops with a toxic concoction of sewage, industrial chemicals, gasoline, and flood waters. This mix was caused by wind and flood damage that knocked out almost all the sewage treatment plants in New Orleans and impacted hundreds of small businesses and manufacturers that use chemicals and fuels, and resulted in the deaths of five people who contracted bacterial infections from direct exposure during the storm.^{[3] [17]} After marinating houses and cars for up to three weeks, however, the floodwaters presented much larger problems, as many residences were covered in mold primarily comprised of the *Aspergillus*, *Paecilomyces*, and *Pennicillium* fungi and endotoxins.^[18] The CDC detected that the high concentration of mold caused an apparent increase in acute respiratory illness in the flooded areas, and because exposure to endotoxins is linked to the development of asthma, there are also significant concerns about the long-term health effects on children in New Orleans.^{[15] [19]}

The ways in which previously existing community health problems exacerbated the direct effects of Hurricane Katrina and the Haitian earthquake can be seen by examining malnutrition in Haiti and the increased severity of infectious wounds in New Orleans. In Haiti, malnutrition is one of the most widespread health problems, especially in children, and one-fourth of Haitian youth are of below average height for their age, and more than one fifth are underweight. As Dr.

Lora Ionatti, a nutrition and public health expert for the Washington University Institute of Public Health, notes, “We know now with certainty that under-nutrition predisposes children to dying from infectious disease, especially diarrheal diseases. Being underweight doubles a child’s risk of death due to diarrhea, and for those severely malnourished, the risk increases by 3.4 to 9.5 fold.”^[14] After Hurricane Katrina, the CDC also found that underlying health conditions, including heart disease, diabetes, alcoholism, liver disease, immunodeficiency, and malignancy significantly contributed to the exacerbation of direct disaster effects by increasing the severity of infection in 72% of patients with infected wounds sustained during the disaster.^[15]

The challenges many hospitals in New Orleans encountered in treating patients already in critical condition after Hurricane Katrina demonstrates the inverse of the effects described above, because the storm’s direct impacts created larger problems in providing health care for pre-existing health conditions. Hospitals are required to have an emergency plan to maintain accreditation, and almost all of the hospitals in the New Orleans area prior to Katrina planned to maintain operability of health services by bringing in extra food, water, and medications, and then relying on generators to provide electricity. Although plans of this nature had worked in the past, the devastating damage caused by Hurricane Katrina quickly rendered them inadequate for mediating the challenges of this disaster situation. Because the vast majority of New Orleans was flooded in the twenty four hours after the storm, the basements that many hospitals used to store the additional supplies and fuel for generators brought in to weather the storm were inundated. The floods also rendered area gas stations inoperable and eliminated the possibility of quickly obtaining more fuel in non-flooded areas by making roads un-navigable, and this further reduced the availability of fuel supplies. As generators ran out of fuel, hospitals

experienced a simultaneous failure of communications, sewage, water, and air conditioning systems.

The detrimental effects of losing electricity are apparent in accounts of doctors and staff working in New Orleans' Charity Hospital during the storm. Charity Hospital was the nation's second oldest continuing public hospital prior to Katrina and the staff members of its trauma center and emergency room were some of the most skilled in the south. However, as generators failed, the lack of power severely limited even their ability to address their patients' needs. Jed Horne's account in *Breach of Faith* effectively illustrates these problems:

Air-conditioning died along with the refrigerators critical to the maintenance of medicines, plasma, food, blood, and the corpses in the hospital morgue. Power packs in the portable blood-sugar monitors couldn't be recharged. Blood pressure cuffs were electronic, not to mention the dialysis machines. Even the pill dispensers were electronic, though they could be busted open with a screwdriver. A patient on blood thinners because of a clot in his lung needed to be checked continuously, or thinning could shade over into hemorrhaging. An ER specialist had come to work equipped with three small portable generators, basically the size of car batteries. They were good for [some] low-power functions, but not for ventilators. And so, on fourteen-hour shifts, ER and ICU nurses in charge of some twenty-five dependent patients fell to the challenge of working the bellowslike "ambu" bags by hand, a task both tedious and nerve-racking.^[3]

The loss of electricity also exposed the staff and patients to additional health threats such as tuberculosis, because tubercular patients at Charity Hospital were ordinarily kept in negative air pressure rooms for isolation purposes, but the hospital's air pressurizing mechanism was electrically dependent. Additionally, temperatures began to elevate rapidly without air-conditioning, creating hot box environments of up to 92 degrees.^[20] Patients and staff all

eventually began to suffer from dehydration and overheating, and the limited availability of clean drinking water made these problems worse.

Section II: The Impact of Socioeconomic Disparity

To begin understanding the impact of socioeconomics in elevating the chance and degree of suffering during natural disasters, it is imperative to recognize that the communities residing in the most vulnerable places of hazard-prone regions are impoverished and that low-income communities have a much higher number of pre-existing health conditions. In New Orleans, the neighborhoods incurring the most flood damage were all located around the canals that run through the city and the majority of these neighborhoods were poor. The congregation of urban poor around the canals occurred because this low-lying land was cheap relative to the rest of the city.^[21] These canals are relevant to this discussion because, while the initial storm surge from the Gulf of Mexico and Lake Pontchartrain caused flooding in the outlying areas of Orleans Parish, the majority of floodwaters within the metro area came from the canals of the city, and this flooding caused most of the death and other negative effects described in Section I.

The biggest canal in New Orleans is the Industrial Canal, which connects the Mississippi River to Lake Pontchartrain. The canal's northern end separates Gentilly and New Orleans East, while its southern end runs beside the Lower Ninth Ward. Similar to the Industrial Canal, three drainage canals also run through New Orleans. These drainage canals were built to pump water out, because New Orleans's location under sea level causes rainwater to collect in the city instead of draining out naturally. All three canals are also connected to Lake Pontchartrain, with the London Avenue Canal running along the side of Gentilly opposite the Industrial Canal, and

the Orleans Canal and 17th Street canals running on either side of the Lakeview area in New Orleans.

As noted earlier, water from these canals flooded most of New Orleans, but the residential neighborhoods in Lakeview, Gentilly, New Orleans East, and the Ninth Ward incurred the most damage, with maximum flood water levels above eight feet and many inundated in water as high as residential homes. Additionally, the Bywater area received between four and eight feet of standing water from the Industrial Canal. When examining the pervasiveness of poverty in these flooded areas, I will use information based on twice the poverty threshold, which is commonly used as the dividing line between adequate and inadequate income in America. This is because poverty thresholds are generally considered to be inadequate for measuring minimal living expenses and have not been adjusted since 1964. According to 2000 census reports, in most of the neighborhoods in Gentilly and New Orleans East, between 22 and 55 percent of the people were living below this threshold. However, the neighborhoods of St. Bernard and Dillard in Gentilly, and West Lake Forrest and Plum Orchard in New Orleans East, reported even higher percentages, with large areas of St. Bernard and West Lake Forrest in the 74 to 100 percent range. The presence of poverty is even more evident in the Bywater area, comprising the Desire, St. Claude, Florida, and Bywater neighborhoods, and the neighborhoods of Lower Ninth Ward and Holy Cross that make up the Ninth Ward area. Approximately 56 to 73 percent of residents in these neighborhoods live below this threshold, with several neighborhoods having even higher percentages.^[22] That the median income for families in all of these neighborhoods was about \$27,000, just 5,000 dollars above the Department of Health and Human Services' poverty line of \$22,050, and for the extremely poor neighborhoods such as the Lower Ninth Ward the average income was under this line, at about

\$21, 000, provides further evidence of pervasive poverty in many of the impacted neighborhoods.^{[5] [23]}

The damage of large natural hazards is not completely restricted to the impoverished, of course, and Lakeview was the exception to the poverty demographics of flooded neighborhoods discussed above, with almost no one living below double the poverty threshold. However, while Lakeview did experience the similar devastating property effects of flooding, it also provides a correlation between poverty and the degree of damage sustained during a natural disaster. A list of locations where bodies were recovered after Hurricane Katrina reveals that forty bodies were recovered in the Lakeview area. This is in contrast to the eighty-one bodies recovered in Gentilly, the ninety seven deceased in New Orleans East, and the seventy two found in the Lower Ninth Ward.^[24] A probable reason for this discrepancy in body counts could be that local search and rescue efforts were concentrated on wealthier areas of town, as the Jefferson Parish Sheriff's Office reported that on August 30, 2005 alone, approximately 500 people from Lakeview were rescued by helicopter, while subsequent efforts were concentrated in Mid-City.^[25]

Another factor of poverty that may have played a causal role in the difference in the number of deaths between Lakeview and the other residential areas was the (lack of) availability of transportation out of New Orleans before the storm. However, this lack of transportation illustrates the impact of socioeconomic disparity on who had to weather the storm in the city, either in private residences or the Superdome and Convention Center. The 2000 U.S. census reported that 127,000 people in New Orleans did not have cars. When this fact is juxtaposed with the State of Louisiana's Emergency Response Plan, which explicitly states "the primary means of evacuation for hurricanes will be private vehicles," it is not surprising that between one hundred and two hundred thousand people remained in the city after mandatory evacuation

orders were issued.^[26] While I cannot prove that all of these households were without transportation for economic reasons, a study released by the Brookings Institute states that the poor and near-poor accounted for nearly 80% of the city's carless population. Additionally, I recognize that many other societal and cultural factors contributed to individuals remaining in the city, including the "Laissez les bons temps rouler" attitude and an ingrained sense of "being able to ride it out" in New Orleans. However, of the evacuees who remained in New Orleans during Katrina and were bussed out after the storm to various evacuation centers, most were of low income, and 34 percent reported not having transportation out of the city as their only reason for not obeying the mandatory evacuation orders, while 42 percent did not provide a specific reason but said they *could not* have done so.^[27]

Evidence supporting the argument that socioeconomic differences influenced a lack of transportation out of the city, which increased human suffering, can also be found by examining the differences in post-disaster experiences of private hospitals and public hospitals. With more resources, many private hospitals were able to make arrangements to leave the city relatively quickly after it became evident that their emergency plans were inadequate in countering the destruction of Hurricane Katrina. Public hospitals could not do the same, and in one instance, all patients and staff from a private hospital were evacuated while patients from a public hospital waited in sight of that evacuation but were not picked up at the time.^[20] Horne's account of the experiences at Charity Hospital after Katrina corroborates this point with perhaps a more poignant touch:

Kurtz-Burke (a doctor at Charity during Katrina) would recall sitting up Thursday night with a quadriplegic. He had heard the *whap-whap* of helicopter rotors and surmised, correctly, that critical patients were being evacuated from Tulane Medical Center. "I remember sitting with him in the waning light, and he said,

‘all the other hospitals are evacuated, I think.’ ‘Yeah they are,’ I said. “Everyone knew the score,” Kurtz-Burke would say, thinking back on that heart-to-heart with the quadriplegic. “We had poor people. We were going to be last. Nobody had any illusions about that.”^[3]

I include this excerpt because, while the published article referring to a private hospital being evacuated in sight of a public one does not include names, it should be noted that Tulane Medical Center, which is a private and for-profit hospital (with Hospital Corporation of America maintaining an 82.5 percent majority ownership), and Charity Hospital were located on opposite sides of a street in downtown New Orleans, less than a block away from each other.

Evidence that the most hazard-vulnerable communities are impoverished can also be found in Haiti, which is the poorest New World country and one of the poorest in the world outside of Africa. In Port-au-Prince, the poor are extremely concentrated in the overpopulated slums where most of the deaths from the Haitian earthquake occurred, as most of Haiti’s rich elite live in Petionville, a half hour drive away from the capital.^[28]

Dr. Colin Stark, a geophysicist at Colombia University effectively links Haiti’s poverty to the high death toll and amputation rate in Port-au-Prince, stating “poverty means that building codes are not written, and even if they do exist they are difficult, or impossible, to enforce. It means the choice between building robustly or building cheaply is not a choice at all. Haiti is a tragic illustration of this. Weak building materials and poor construction standards share much of the blame for the grotesque numbers of fatalities, injured and internally displaced people.”^[29]

Ake Fagereng, of the University of Cape Town's geological sciences department also attributed the massive destruction in Haiti to Port-au-Prince’s inadequate infrastructure, which could not withstand the shaking, and these opinions seem to be the consensus among experts in the field.^[30]

A further illustration of this point can be found by examining the effects of the magnitude 8.8

earthquake that struck Chile on February 27, 2010. This earthquake killed 276 people in the metropolitan area closest to its epicenter, Concepcion, a city of 670,000 people. When considering that the Richter scale works in exponential increments, with the Chilean earthquake having almost twenty times more shaking power than the Haitian earthquake, it becomes more evident that the sheer force of natural hazards was not the only key factor contributing to the damage in Haiti. Unlike Hurricane Katrina, vulnerability of the impoverished in this situation was not based on being located in a hazardous area, but was caused by actually living in a hazardous structure. Socioeconomic disparities, however, were driving forces behind both disasters.

Poverty also contributed to the suffering of those who survived the Haitian earthquake by forcing large numbers into the make-shift displacement camps and causing the malnutrition that became much more detrimental as diarrheal disease outbreaks struck many of these camps. The influence of poverty on public health issues in New Orleans is also evident, as the people suffering from the underlying health problems that increased the severity of wound infection were disproportionately living in poverty.

Prior to the earthquake, Haiti had one of the world's greatest socioeconomic divides, and 80 percent of the nation was impoverished, with 54 percent of the population living in abject poverty.^[28] This manifested itself clearly in the aftermath of the earthquake as the elite had the ability to flee the country and will have the financial resources to rebuild if they chose to return. A specific example of this, which is reminiscent of the differences between Charity Hospital and private, wealthier ones, is the case of Harold Morzouka. Morzouka, a business man who owns packaging and spaghetti factories in Port-au-Prince, chartered an 18-seat executive jet to fly members of his extended family to Miami on January 16, four days after the earthquake, leaving

a country of millions who could not afford the same luxury to suffer the additional post-earthquake effects.^[31]

I am not condemning Mr. Morzouka or the steps taken by Tulane Medical Center and other private hospitals. These are perfectly reasonable post-disaster actions and in the case of private hospitals, it would have been morally reprehensible not to use all available resources to ensure that their patients were safe. For the purpose of this essay these cases are used merely to demonstrate that the impoverished are in much greater need after disasters. Combining this with the knowledge that the impoverished live in the most vulnerable areas, it is evident that socioeconomic disparities affect both the chance and degree of suffering, and the ability to mediate these effects independently.

I address the impact of financial means as a socioeconomic factor, rather than purely an issue of poverty, because of a correlation between the most negatively impacted communities discussed above and race. Unlike poverty, I am not arguing that race was a causal factor that directly increased post-disaster human suffering for these two events. Instead, for these two situations, I believe it is a major corollary that becomes relevant when examining the U.S. federal response in New Orleans and Haiti. According to 2000 census data, 73 percent of people living in the flooded neighborhoods of New Orleans were black. Additionally, it is believed that up to 80 percent of post-landfall survivors in New Orleans were African American, and CNN reported on September 3, 2005 that “as more and more eyewitness accounts of conditions in the Convention Center and Superdome surface, it becomes plain that most if not all of those who survived unspeakable days and nights under inhuman conditions were black.”^[25] The survey of various evacuation centers, including Reliant Park in Houston, Texas, reported by Brennan et al., found that 93 percent of those in evacuation centers who did not evacuate prior to the storm were

black.^[27] In Haiti, of the total population, 95 percent are black and the remaining 5 percent are mulatto and white.^[32] These numbers illustrate that of those that suffered most during and after Hurricane Katrina and the Haitian earthquake, most were poor and black, and this link between race and class is relevant when examining the U.S. federal government's response to these disasters and my discussion on how more effectively to improve disaster relief.

Section III: Governmental Failure due to Corruption

A comparison of how governmental failure and corruption in Haiti and New Orleans directly contributed to the catastrophic nature of these events presents a major challenge due to the Haitian government's long-standing history as one of the most corrupt in the world, regardless of who is in power. In New Orleans, a concrete example can be found, as the Orleans Parish Levee Board failed to protect its most vulnerable citizens and squandered funds on personal privileges. For Haiti, however, I do not have such an illustrative example, as the country's government and civic organizations have always had widespread deficiencies in protecting its citizens. Nevertheless, by examining the amount of foreign aid distributed to Haiti in recent years and analysis of their civil service, some similarities between the governmental failures concerning both catastrophic events can be demonstrated.

As demonstrated in Sections I and II, the majority of the deaths and damage in New Orleans was caused by the flooding that occurred from the Industrial Canal and the three smaller canals connected to Lake Pontchartrain. However, while these canals brought the water into the city, they cannot be blamed for the severity of the flooding, because there was a system of levees built around the canals to protect the surrounding areas from exactly this situation. Instead, the severity of the flooding must be attributed to failures in this levee system, as three of the four levees breached and the Orleans Canal were overtopped during the storm. Because there is

ample evidence that these failures were due to structural deficiencies and not the natural force of the storm, the responsibility of the inundation of New Orleans falls to the Orleans Parish Levee Board.

Investigations of the levee failures have discovered many structural deficiencies in the canal levee systems that were present before Hurricane Katrina, including (1) that the earthen embankments of the canal levees were built out of weak and inadequate materials, (2) had trees growing on them, and (3) had pilings driven at their base. These investigations found that the “earthen berm [of the 17th Street Canal] appeared to be built up with spongy, substandard “swamp muck” — perhaps dredged from the levee channel — instead of dry, compact and less porous dirt fill. Investigators also found that the fill used at the London Avenue levee was full of “shell material” and sand, both too weak to withstand walls of rushing water when the levees were subjected to the surges during the hurricane.”^[33] Trees growing within the earthen embankments of the levees also cause structural deficiencies in the levees, because these trees act like “corks in the levee wall, just waiting for a high wind or raging water to pop them”, and once a tree is ripped out, a hole is left and the structural integrity of the levee is compromised.^[3] Allowing trees grow on the levee is also “ill-advised, given how handily the root systems provided pathways for water to work its way through the soil.”^[3] Several days before the storm, pilings were driven into the ground near the 17th Street Canal to stabilize New Orleans’s sodden soil, because three houses were under construction. However, this causes structural damage within the levee because pile-driving causes small vibrations to reverberate underground, and when done near a levee, causes a small temblor, or earthquake, within the loosely compact soils of a man-made levee decreasing its strength and stability.^[3] Additionally, the LSU Hurricane Center discovered that the only reason the Orleans Canal was overtopped was that it was missing

a flood wall at the embankment in front of the pump stations at the foot of the canal, making this four hundred foot section of the levee six feet lower than the rest of the levee system.^[34]

Because the levee boards are responsible for maintaining the structural soundness of the levees to ensure that they work in the event of a hurricane, and because the levees were breached due to structural problems, the levee boards failed to perform their task adequately. Not only are missing floodwalls, trees, and pilings easy to spot, they should have been spotted because the levee boards are required to tour and inspect the canal levees twice a year. However, investigation of these levee inspections found that much more importance was placed on the luncheon that occurred after the inspection than on the inspection itself. Frank Donze, a writer for the *The Times-Picayune*, exposed the “travesty [the inspections] had degenerated into over the years: essentially a hasty drive-by of small portions of the 169-mile levee system, culminating in lunch and much merriment at a west bank restaurant: crab cakes with champagne dill sauce and a dessert of white chocolate mousse with raspberry coulis.”^[3] The levee board’s excuse for the cursory and superficial nature of the official tours and inspections was that other, unofficial inspections were conducted throughout the year. When explaining these unofficial inspections, the levee board’s Chief Engineer and top flood protection administrator Steven Spencer stated that, “On a daily basis, our people are out in the field cutting the grass, doing work on floodgates, greasing them, that sort of thing. Most of the supervisors have been here 25 or 30 years, so they know what a good levee looks like and what one with problems looks like. If there's a problem, it's looked into further.”^[35] However, the presence of trees and pilings, which are obvious problems for the integrity of the levee system, as well as the absence of the Orleans Canal floodwall, shows that, evidently the supervisors either did not know what a good levee

looks like or that the levee board knew about the problems and ignored them anyway, and neither of these options is any better than just not finding the problems.

Examining how the levee board spent its money in the years immediately prior to Hurricane Katrina reveals that their failure to maintain an adequate flood protection system was at least in part due to corruption in the handling of funds. In addition to placing more importance on the tour's luncheon than the tour itself, the levee board also footed the bill for all post-inspection meals. In 2005, *The Times-Picayune* reported that the levee board "records show that attendance during the past two years had ranged as high as 56 people with lunch bills ranging from \$682 to \$973."^[35] Another investigative report, conducted by Lisa Myers and the NBC investigative unit, shows further needless expenditures by the levee board, which included building a Mardi Gras Fountain costing 2.4 million dollars, spending 15 million dollars on the construction of two overpass bridges to help gamblers get to Baily's Casino, and paying 45,000 dollars to hire private investigators to dig up dirt on radio host Robert Namer, who was vehemently critical of the levee board's misuse of power. After Namer discovered this, he sued, and the levee board spent another 45,000 dollars to settle the case. Bill Nungesser, a former top Republican official who was briefly president of the levee board and lost his position for targeting wasteful spending, explained the board's actions by saying, "A cesspool of politics, that's all it was. They misspent the money. Any dollar they wasted was a dollar that could have went in the levees."^[36] Nungesser's statements reveal that the true travesty of this situation is not that these unnecessary expenditures were undertaken, but that the 17.5 million dollars they cost could have been spent on better inspections and levee maintenance.

Much as the levee failures were the key factor to the flooding that caused much of the suffering in Katrina, weak city infrastructure in Port-au-Prince and non-existent economic

development were causal agents in creating the circumstances that made the negative effects of the Haitian earthquake so great. Another similarity is that steps to improve these factors were not taken by the Haitian government although funds were available to begin doing so. Between 1990 and 2005, the U.S. federal government alone provided almost 1.5 billion dollars in foreign aid to Haiti, with 361.4 million dollars going into infrastructural development and 588.1 million dollars going into the Economic Support Fund.^[37] However, analysis of Haiti's civil service provided by a National Academy of Public Administration report in 2006 illustrates why these funds did not go towards improving building structures or the Haitian economy. *Why Foreign Aid to Haiti Failed* states:

The Haitian civil service has been perpetually a problem. Assessments revealed that about 30% of the civil service were "phantom" employees, compensated about half of the public wage bill. One ministry had 10,000 employees, only about half of whom were ever at work. A 2004 International Monetary Fund (IMF) assessment, looking back at Haiti's civil service in 1998, found that the: (1) civil service has played a very limited role in providing social services; (2) small size and very limited capacity of the government contrast with the massive development challenge facing the country; (3) public sector is far smaller than in other developing countries; (4) public sector wage bill in Haiti is very low; (5) public wage bill takes up a significant portion of the government budget in Haiti; and (6) public sector wages are not comparable to private sector. The IMF doubted Haiti's ability to deliver services, attract quality civil servants, and avoid corruption.^[38]

Thus, we can see that, even though Haiti is extremely poor, it was not just a lack of funds that led to the country's frail infrastructure. Instead, it was government inattentiveness to the needs of their citizens, and the above statements demonstrate that at least some of this was due to corruption within civic organizations. Thus, it is also evident that while poverty (and much more

indirectly race) were major factors in elevating the chance and degree of suffering in both New Orleans and Haiti, had civil government performed its functions adequately *prior to these events*, the impact of race and class on suffering would have been reduced.

Section IV: Delays caused by Security Concerns in the U.S. Federal Response

I discuss the efforts of disaster response in the framework of the U.S. federal response because in both cases, local and regional infrastructure and government were immediately overwhelmed due to the catastrophic effects of these disasters. Furthermore, I believe discussing the U.S. federal response outside of our country is pertinent to this essay because of the amount of influence they have had on the Haitian relief effort, and in many other international disaster relief efforts.

The U.S. government currently uses the military and the Federal Emergency Management Agency (FEMA) as its primary means of responding to domestic natural disasters, while the military and USAID handles international incidents. All of these organizations possess the resources to provide most basic health needs and medical assistance to affected communities. They are, however, woefully inadequate at responding expediently, as can be seen by the four-day delay in getting basic necessities to the New Orleans Superdome and the six-day delay to get supplies to Haiti after the earthquake. Through comments made by U.S. federal officials it is clear that this lag time can be attributed to an organizational philosophy of establishing security in the area before distributing basic health needs during relief efforts. Five days after Hurricane Katrina, President Bush issued a statement emphasizing the need to reestablish law and order to the city, while American citizens were still suffering without food and water. In Haiti, U.S. officials have also blamed security concerns for delays, because no aid

from the federal government can be deployed without a military escort. David Lindwall, the deputy chief of mission at the American Embassy in Haiti, said teams and supplies "aren't getting out as broadly as we'd like because of security" concerns.”^[39]

This philosophy further hinders timely relief by impeding the work of non-profit and non-governmental relief organizations, as exemplified by the Red Cross petitioning twice to open sheltering and feeding camps in the New Orleans area during the four days after Katrina and being denied permission due to security concerns.^[40] Furthermore, these types of organizations experienced similar hold-ups in Haiti, as the U.S. military took over Aeroport International Toussaint Louverture in Port-au-Prince immediately after the earthquake, controlling which flights came into the airport and when supplies left the airport after being shipped in. In the following days, many organizations complained that too great an emphasis was being placed on the needs of the U.S. military and maintaining security around the city during relief efforts. Doctors Without Borders and the World Food Organization both issued complaints after their planes, which were carrying medical supplies and other humanitarian aid, were diverted so U.S. military planes could land troops and equipment. Jarry Emmanuel, the air logistics officer for the World Food Organization summed up the relief efforts in the aftermath of the earthquake saying, “Their priorities are to secure the country, ours are to feed.”^[41] Additionally, Gilbert Castro, emergency response manager of transport company Deutsche Post DHL, which handled hundreds of tons of aid, blamed slow distribution out of the airport once supplies did arrive on security concerns stating, “Twenty containers go out, but you have to have about 100 heavily armed soldiers” go with them.^[39]

In earlier sections, I demonstrated that in catastrophic situations, many causes of human suffering is caused by a lack of basic needs, and that the likelihood of incurring these negative

effects and their severity rises with poverty, while the ability of individuals and communities to independently mediate these effects simultaneously decreases. This is relevant because the effectiveness of disaster response is contingent on helping those in need of aid, and the people in the most need after disasters are those living in poverty prior to the event. In the two cases I have examined, they were also primarily black. In the following section, I will illustrate that the U.S. federal government's philosophy of establishing security first during emergency response in these two situations was due to an unfounded perception that being poor and black leads to violent behavior during a supposed anarchic period of societal collapse that occurs after catastrophic disasters. This is counter-productive to the goal of effective emergency management, as these perceived threats are created about the same people they should be trying to help the most and the fastest.

Section V: Culture and Media in the Perception of Violence

The belief that there were massive security threats in the aftermath of these two natural disasters was unnecessary. In the aftermath of Hurricane Katrina, the federal government's fear that murder was abound in New Orleans can be seen by the refrigerated 18-wheeler that showed up at the Superdome and Convention Center to pick up corpses, expecting two hundred and fifty bodies between the two shelters. The actual death toll from the Superdome was six, with four dying of natural causes, one dying of a drug overdose, and one apparent suicide. In the convention center, there were four bodies recovered, with one possible murder victim and three deaths from natural causes.^[20] Additional evidence that this perception was widespread among high ranking government officials can be seen through comments made by then Louisiana Governor Kathleen Blanco, who commented on the fifty trucks of National Guard military police

sent to secure downtown New Orleans six days after the storm. Blanco warned that this installment of troops had recently returned from Iraq and that they were “locked and loaded” and “know how to shoot to kill.”^[42] The disconnect between her statements and the actual situation in New Orleans is evident, as, on the same day, a thousand soldiers stormed the convention center anticipating violence and disorder, and met no resistance from those inside. Within twenty minutes these troops were able to begin distributing food and water to the people in the shelter.^[25]

One week after the earthquake in Haiti, and the same day the Deputy Chief of Mission at the American embassy there made remarks about security concerns, a team of Cuban doctors was seen treating an organized and peaceful group of hundreds of patients without a gun or soldier in sight.^[39] Additionally, Israel has been praised for its relief work in Haiti, beginning search and rescue operations and setting up a fully operational hospital in the twenty-four hours after the earthquake. These observations support the widespread belief in the field of emergency management that individuals, households, and communities act rationally and do not panic or resort to anti-social violent behavior in post-disaster situations (See Lindell et al. 2006: *Myths and Realities of Household Disaster Response* for further details).^[43]

Many different social science observations have been made about this issue, and some have blamed the media for proliferating rumors about violence after disasters (see Tierney et al. 2006: *Metaphors Matter: Disaster Myths, Media Frames, and Their Consequences in Hurricane Katrina* and Rodruiguez et al. 2006: *Finding and Framing Katrina: The Social Construction of Disaster* for further details).^{[44] [45]} Others, including John Protevi, author of *Political Affect: Connecting the Social and the Somatic*, believe that the federal government’s perception that a violent reaction would occur during these periods of anarchy were caused by a deeply rooted

racial tension in white America stemming from the days of slavery and its subsequent revolts. A final viewpoint I have found to be pervasive is, as General Russell Honore, who was eventually placed in charge of recovery efforts during Hurricane Katrina, stated in an interview after the Haitian earthquake, “I think sometimes we talk security, because as a culture, we are afraid of poor people in large groups. In Haiti, right after the earthquake, there were doctors who left. One said, ‘We don't have any security so we left.’ That, in and of itself, is indicative of my Katrina experience. People start talking security.”^[46] Thus, the three prevailing schools of thought on the subject are that the media blows things out of proportion in the aftermath of disasters, “the securitarian/racist panic [is] triggered by thousands of blacks gathered together without enough police,” or American culture perceives the impoverished as violent when the social and societal infrastructure they need to survive is removed.^[47] While I do not disagree with any of these viewpoints, I believe that as separate entities, they are insufficient in explaining the federal government’s dominant urge to secure when securing is not needed.

To account for why the either/or nature about the issues of race and class occurs in this situation, I present two contrasting arguments from Walter Benn Michaels, author of *The Trouble with Diversity*, and Michael Eric Dyson, author of *Come Hell or High Water*. In *The Trouble with Diversity*, Michaels argues that liberals embrace race because this allows them to ignore the wide and deep socioeconomic divide that plagues our domestic and global society regardless of their political efforts to rectify such disparities.^[48] Dyson, on the other hand, posits that class is the preferred discriminatory value for conservatives, so that they can avoid confronting the issue of systemic racism, which the Republican Party is often accused of passively embodying.^[49] However, due to historical factors, such as slavery, the following century of legalized segregation, and policies like the New Deal and Social Security, which

originally excluded agricultural workers and domestics (jobs primarily held by blacks), and their racialized effects on wealth accumulation, it is evident that class and race have always been closely tied together in America.^[50] That blacks currently still represent a disproportionate number of poverty-stricken American citizens, with African Americans representing only 13 percent of the total U.S. population, but making up 32 percent of the of the country's poorest quintile and just 1.7 percent of the richest, demonstrates that this trend is still pervasive today.^[48] The same can be said about our global environment, as dominantly black countries, including Haiti, make up 69 percent of the world's least developed countries according to the United Nations. Thus, because race and class are inextricably linked, I argue that white America (and the federal government by association) believes in disturbingly violent post-disaster scenarios only if the situation involves an impoverished *and* black community, and that this is due to media and cultural proliferation of this belief.

During the Indonesian tsunami in December of 2004, a large, impoverished, and minority, although not black, population was catastrophically devastated and its infrastructure destroyed. Examining American media coverage of this event and its aftermath shows almost no mention of perceived security threats, even though the circumstances between this disaster and the Haitian earthquake were similar in terms of widespread poverty, a high death toll, and the destruction of local and regional government that is supposed to provide law and order. Further demonstrating that the federal government was not concerned about security threats in the area is that only three days after the tsunami hit, the U.S. government had already sent eight C-130 Hercules transport planes, loaded with tents, food, clothing and other supplies to the impacted areas, beginning relief efforts without even having troops on the ground.^[51] Additionally, "it strains the imagination to envision three thousand whites of any U.S. city moved to an interstate

highway and forced to spend the night on the roadway with armed military personnel preventing their escape.^[50] Thus, that Katrina and Haiti involved dominantly black populations must be a factor. A concrete example demonstrating the necessity that white America perceive the impacted community as poor, in addition to black, to believe they are violent is a more difficult task, because finding a country that is rich, black, and has been struck by an overwhelming natural hazard is not feasible.

I argue that media and culture are key contributors to the proliferation of this belief, as both are authorities of the “knowledge” that makes up white America’s subjective “true” belief on the subject. The media plays the obvious role of being trusted to disseminate true information to the public, and when that information is about an abundance of murder, rape, and looting in the aftermath of disasters, it is taken at face value. During Katrina, the news media’s contribution to the framing of blacks as outlaws and savages was exacerbated by continual news coverage that looped the same clips of blacks “looting” over and over again. This helped spread the notion that black folk were in a state of social anarchy and were tearing violently at the fabric of civility and order.^[48] However, the media also has a deeper contribution to the construction of the white American belief that people are violent when presented with a lawless situation. I believe that a perversely misconstrued version of the Hobbsian belief about the nature of man has been dispersed through the popularity of entertainment media that depict post-apocalyptic scenarios. Hobbes posits in *Leviathans* that “the notions of Right and Wrong, Justice and Injustice” are non-existent in the natural law of man, which occurs when the sovereign and the control it exerts are not present. Examining popular works of fiction such as the classic *The Lord of the Flies*, the hit 80’s movies, *Mad Max* and its sequels, and the 2006 Pulitzer Prize winner *The Road*, by Cormac McCarthy, we can see that several generations of Americans have been

widely exposed to a perverse version of this Hobbesian theory of the natural state of man. A version that includes violence, child savagery, cannibalism, and catamites, as the absence of morality needed to survive in this natural state is taken to convoluted levels of depravity. The importance of these fictional works cannot be overlooked, as they are extremely influential in constructing the white American belief of violence during anarchy. This is due to the relative rarity, small spatial scale, and socioeconomic and racial make-up of those directly affected of real-life events which collapse civil order. To clarify, events like Hurricane Katrina and the Haitian earthquake do not happen very often, and when they do occur on domestic soil, they most often only severely impact only a small portion of the American population. Additionally, of this small portion of impacted people, most have been poor and black. Thus, fictional works are much greater contributors to the construction of white American beliefs on the nature of man during anarchy than exposure to actual events.

Media has also been a source of socially constructed belief in terms of linking being black and poor to being violent. Again the news media plays an obvious role in this but the much broader spectrum of entertainment media makes a greater contribution to this perception for similar reasons. Popular television shows such as *Gangland* devote entire hours to delving into groups that for the most part are black and poor, and commit heinously violent and lawless acts. Print media, such as *The Tin Roof Blowdown*, by James Lee Burke, a widely read and prolific author from New Iberia, Louisiana, also plays the role of influencing subjective beliefs about the link between being black, poor, and violent. *The Tin Roof Blowdown* is written through the eyes of one of Burke's recurring characters, Detective Dave Robicheaux, the fictional sheriff of Iberia Parish, who is assigned to New Orleans immediately after Hurricane Katrina. The summary of the book provides some enlightenment on Burke's subject matter,

stating “Hurricane Katrina has left the commercial district and residential neighborhoods awash with looters and predators. The power grid has been destroyed. There is no law, no order, no sanctuary. In this apocalyptic nightmare, Robicheaux must find two serial rapists.”^[52] Additionally, Burke describes the situation at the Superdome and Convention Center, by having one of his characters say, “Street rats are shooting guns in there and raping anybody they want.” The storyline reveals that said rapists are both poor and black, and throughout the novel it is implied that the street rats he refers to are as well. I believe *The Tin Roof Blowdown* is an example of the prototypical perception that white America had about post-Katrina New Orleans and their more general perception of poor blacks in anarchic situations, and it was also a New York Times Best Seller and highly acclaimed by critics. Because it was so commercially successful, Burke’s novel illustrates how this misguided belief gets perpetuated through entertainment media.

Culture as a basis of knowledge is the other key factor that contributes to the development of this perception. Culture in this respect is the cumulative build-up of social norms and beliefs within a specific subset of the American population, and Protevi argues that white American culture in relationship to blacks begins with the history of slavery in Louisiana, the south, and the Caribbean. The influence of Haitian culture in the identity of New Orleans is evident in the local cuisine, with red beans and rice a staple of both cultures, prevalence of voodoo religion, and some of the Haitian musical inspirations that lead to jazz. However, the reasons for this strong influence also illustrate a deeper historical connection between New Orleans and Haiti that is rooted in slavery.

In the early 1800’s, Haiti, then known as Saint-Domingue, gained its independence through a massive slave revolt that defeated France’s military forces. After the revolt, French

Hispanola's former slaves killed many of Haiti's whites, destroyed the plantations and their infrastructure in order to make it impossible to rebuild the plantation system.^[30] The revolt simultaneously prompted an immigration of about 10,000 refugees to New Orleans, many of which were French colonists and their slaves.^[53] Protevi believes that this immigration of white slaveholders fearful of slave rebellion and events such as the Point Coupee and Natchez slave revolts began to instill a deep seeded fear or anxiety about poor blacks becoming violent. Additionally, the slave revolt link between Haiti and New Orleans, the close proximity of former slave holding Caribbean islands to the Southern United States, and the widespread violence reported in many African countries such Somalia and Rwanda has blurred the line of perception that differentiates African-Americans and blacks of other countries. Accordingly, the perception of violence attributed to poor black communities in America also translates across borders. Additional examples of events that have caused the buildup of this belief in American culture are the violent aspects of the civil rights movement and its related race riots, notably in Detroit and Los Angeles during the 1960's. A more recent event is the 1992 race riot in Los Angeles, after four policemen were acquitted for the beating of Rodney King, despite video evidence of their guilt. This event, where the black community was portrayed as the antagonist, resulted in almost 60 deaths, more than two thousand wounded, and property damages totaling one billion dollars. Thus, the accumulation of subjective cultural beliefs from these events also leads to the perception that poor blacks will become violent, especially when their community believes it has been neglected or wronged by the sovereign. Cultural proliferation in this way can also account for the federal government's greater belief (than the general white public) that poor blacks will react violently, because in all of these cases, the violent reaction was against the perceived failed authority. This is congruent with Protevi's argument, as he states that the "[surprising]

immediate response to Katrina of the vast majority of Louisianians was not racial fear, but solidarity. It was left to the government to engage that fear.”^[47]

The impact of this misguided belief is demonstrated through how impoverished communities are the most negatively impacted during natural disasters due to increased susceptibility and a decreased ability to self-mediate, and are therefore the people that need government assistance the most. That many of the impoverished in our country and around the world are black, and that natural disasters often cause catastrophic damage that greatly cripples civil infrastructure, imply that success for the federal government in terms of efficiently mediating the effects of natural disasters may be contingent on rectifying the false perception of violence in disaster-impacted and poverty-level, black communities.

Section VI: Conclusion

In this essay I have discussed the three major factors that I believe contributed most to the catastrophic effects of Hurricane Katrina and the earthquake in Haiti, which were socioeconomic disparity, governmental failure due to corruption, and distressingly slow efforts by the U.S. federal government to provide necessary disaster aid due to a misguided perception that certain situations require establishing security first. In this section, I present the solutions I believe are feasible to help address these factors and their impacts on human suffering, as well as actions I believe need to be done, but for which I do not have concrete solutions.

Finding a means to bridge the poverty gap that proved so detrimental in these two disasters is well outside the scope of this essay, as it requires addressing many systemic and long-standing issues, a few of which include the creation of winners and losers in the free market of capitalism (domestically and globally, as the international community is so inextricably linked

financially that America's economic system has resounding impacts elsewhere), faulty international economic policies and lending practices that prevent countries like Haiti from developing into sustainable and self-reliant countries, and the domestic education gap between the haves and have-nots in America that prevents upward class mobility. However, within the context of emergency management, some of the negative effects wrought by these disasters that were caused by poverty can be mediated.

To address the issue of wide-spread community health problems due to poverty, preemptive steps should be taken to identify the prevalent community health problems in disaster prone areas through studies in biostatistics and epidemiology. There are many parts of the world, including the American Gulf Coast, the islands of the Caribbean, and the Pacific Ring of Fire, that are much more prone to large-scale disasters due to geographic characteristics. Prior knowledge of the most prevalent community health problems would identify the most needed health services in these areas, and would ease the resource strain after disasters by facilitating the allocation of necessary supplies and personnel for disaster relief before relief efforts began. This information could also be used to proactively reduce the number of people in need of post-disaster health services by establishing target groups for public health research and instruction. Taking this measure would also decrease post-disaster medical needs by reducing the number of health conditions that become magnified after a disaster.

The obligations of government and the obligations of the individual require examination relative to the issue of socioeconomic factors that prevent individuals and communities from taking necessary measures to reduce the probability of human suffering caused by natural disasters. The policy of disaster preparedness in the U.S. is one of individual responsibility before an event occurs, and FEMA and the National Hurricane Center instruct citizens to buy

supplies such as flashlights, batteries, a radio, bottled water and non-perishable food items for their own emergency kits, have a personal emergency evacuation plan, and locate an out-of-state place to stay in the event of a hurricane or other disaster. Additionally, as noted earlier, the individual is responsible for locating transportation out of an evacuation zone, and this means having access to a vehicle and the resources to pay for gas and other necessities during the evacuation process. Thus, people possess only as much protection from natural disasters as they can afford to buy and this philosophy of individual responsibility leaves many vulnerable. However, since America's creation, the idea of a social contract between government and citizen has been present, and in the New York Times article *The Broken Contract*, Michael Ignatieff provides a coherent explanation of government obligation within this contract:

A contract of citizenship defines the duties of care that public officials owe to the people of a democratic society. The Constitution defines some parts of this contract, and statutes define other parts, but much of it is a tacit understanding that citizens have about what to expect from their government. Its basic term is protection: helping citizens to protect their families and possessions from forces beyond their control. In America, a citizen has a claim of right on the resources of her government when she cannot - simply cannot - help herself.^[54]

Ignatieff further argues that the situation of the impoverished in New Orleans immediately prior to Katrina met the conditions necessitating the government's obligation to protect its citizens, stating that "They are entitled to [an adequate levee protection system, a means of evacuating the city, and at very least, basic necessities within the shelters] because they are Americans and because these simple things, while costly, are well within the means of the richest society on earth."^[54] With this statement, Ignatieff also addresses the issue of government failure prior to disasters, as the social contract between citizen and government in New Orleans included ensuring that adequate protection was given. Thus, because there is an inherent political

obligation to protect its citizens and America possesses the economic means to do so in these situations, the United States should reassess its position on individual responsibility and provide widespread government assistance to help its most vulnerable citizens avoid or reduce the suffering caused by natural disasters. The effectiveness of policies that provide this assistance can be seen by examining Cuban emergency management. The Cuban government has accepted primary responsibility for the welfare of its people with respect to natural disasters. This has prompted a disaster management philosophy that focuses on the needs of communities and the coordination of available resources and services to meet those needs, as well as an emphasis on disaster education. The results of adopting such a philosophy can be seen by comparing the death tolls from hurricanes in Cuba with those in the United States. When Hurricanes Ivan and Charley occurred in 2004, fifty-seven people died in Florida, but only four died in Cuba from both storms despite suffering extensive infrastructural damage in the country from these hurricanes.^[50]

Although the societal factors that obligate the U.S. to protect its own citizens from the harmful effects of natural disasters do not apply to foreign countries such as Haiti, adopting a philosophy that emphasizes providing the needs of impacted communities would also be highly beneficial to America's international disaster relief efforts by simultaneously emphasizing the need to provide aid and devaluing the mythical importance of total securitization. Additionally, while no social contract exists between the U.S. government and foreign nationals, I believe that by choosing to be intricately involved with most international disaster relief efforts, often playing a role secondary to only the United Nations when catastrophes strike foreign countries, the U.S. has a moral obligation to provide relief in the most effective ways possible to reduce human suffering and the loss of life.

Government failure due to corruption prior to these two events is also a complex issue, with few concrete solutions currently available for situations in America. However, in the U.S., the failures of the Orleans Levee Board and other facets of government during Katrina prompted many investigations and reviews which are the preliminary steps to ensuring accountability in the future. An example of this is the Louisiana Attorney General's 2006 investigation of the Orleans Levee District, which revealed further problems within the organization after Katrina. These findings included that the levee board spent 3.2 million dollars on legal counsel without getting proper approval, and that there was rampant corruption on the part of the levee board's Executive Director Jim Huey. The Attorney General's 2006 Annual Report states that Mr. Huey authorized Marine Recovery and Salvage, LLC to conduct a project of recovery and storage of vessels damaged during Hurricane Katrina, although he did not have the jurisdiction to do so.^[55] The report also states that this arrangement appeared to have ethical ramifications, and further investigation after the report discovered that the owner of Marine Recovery and Salvage was Jim Huey's nephew, and the contract was far more lucrative than necessary. Additionally, the most galling revelation of this investigation was that Huey wrote himself a check for \$98,000 after suddenly deciding that he was owed for five years' worth of work over and above the stipend that levee board members collect to cover expenses.^[3] After these transgressions were discovered however, Mr. Huey refunded the agency all the money he had granted himself and resigned from his position. This illustrates that measures can, and should, be taken to ensure ethical behavior and proper performance of functions in domestic institutions responsible for public safety in the U.S., and these steps could be the difference between just another hurricane and a catastrophic one in the future.

In Haiti, government corruption is too rampant on all levels of government to correct the failures of civil organizations detailed in Section III. Prior to the earthquake, Haiti was the most corrupt nation in the world according to Transparency International, and “most see no hope of this improving any time soon.”^[30] On this particular issue I have no solution to propose, and offer only the hollow assertion that something should be done.

In addition to the social contract that obligates the government to protect its citizens by providing community needs and basic supplies, the U.S. federal government should re-prioritize its mission in emergency management to focus on distributing aid as rapidly as possible and making security a secondary concern because, as stated in section I, the direct impacts of Hurricane Katrina and the Haitian Earthquake left many without basic needs, and this led to its own inherent suffering, and more complex health problems. Because of the difficulties of shifting the perception that security is necessary, as it is deeply rooted in American media and culture, I instead offer the temporary solution of ensuring that someone well-versed in both the military and the issues of socio-economic/racial disparity be highly involved in the command of disaster relief. The basis of this solution is the success of General Russell Honore in mediating the effects of Hurricane Katrina, and although he has retired from military service, he should serve as the archetype for future military leaders in emergency management. I think an additional benefit of this is that the top-down nature of the military would lead to a shift in perception for the armed forces involved in disaster relief much sooner than a shift in the perception of the white American public and overall federal government will occur.

An additional short-term feasible solution to rectify this problem is to ensure that the U.S. government and its emergency management organizations learn from Hurricane Katrina and the Haitian Earthquake. That these organizations were again overly concerned about security in

Haiti, even after investigations of Hurricane Katrina discovered very little violence and crime, illustrates that this is not occurring right now.

To counter the arguments that both emergency management, due to the ever-present fear of terrorism and the one-sided allocation of resources in the field, and the military, due to the organization's primary mission of providing security, will be steadfastly focused on securitization in the future of disaster relief, I offer the example of the Israeli military. As noted in Section IV, Israel set up a hospital and search and rescue team in the 24 hours following the earthquake, and both were military operations. This rapid response is not because their military does not understand the need for security, or that their system of emergency response is not geared towards terrorism. I would argue that on both counts, the Israelis are acutely aware of these issues, and that the country's success in the relief efforts in Haiti are because of an understanding that aid distribution in the aftermath of disasters is more essential than ensuring absolute security.

Works Cited

1. Sylves, Richard. "President Bush and Hurricane Katrina: A Presidential Leadership Study." *Shelter from the Storm: Repairing the National Emergency Management System after Hurricane Katrina (Annals of the American Academy of Political and Social Science)* 604 (March 2006): 26-56.
2. "Storm Surge: A "Rising" Concern Among Coastal Residents." *National Oceanic and Atmospheric Association Magazine*. September 30, 2005.
3. Horne, Jed. *Breach of Faith*. New York City: Random House, 2006.
4. "Katrina's Statistics Tell Story of its Wrath." *The Weather Channel* . August 21, 2009.

5. Petterson, John, Laura Stanley, Edward Glazier, and James Philipp. "A Preliminary Assessment of Social and Economic Impacts Associated with Hurricane Katrina." *American Anthropologist* 108, no. 4 (2006): 643-670.
6. CNN. "The Magnitude of Haiti's New Reality." February 12, 2010.
7. Lacey, Marc. "Estimates of Quake Damage in Haiti Increase by Billions." *The New York Times*, February 16, 2010.
8. CNN. "Haiti Appeals for Aid; Official Fears 100,000 Dead after Earthquake." January 13, 2010.
9. Sontag, Deborah. "Countless Lost Limbs Alter Life in Haiti's Ruins." *The New York Times*, February 22, 2010.
10. Gray, Melissa. "Tough Challenge Gets Tougher for Haitian Amputees." CNN, January 27, 2010.
11. *Infectious Disease and Dermatological Conditions in Evacuees and Rescue Workers after Hurricane Katrina*. Morbidity and Mortality Weekly, Center for Disease Control, 2005.
12. Basu, Moni. "Massive Food Distribution Begins in Quake-Ravaged Haitian Capital." CNN, 2010.
13. Romero, Simon. "Poor Sanitation in Haiti's Camps Adds Disease Risk." *The New York Times*, February 2010.
14. "Lora Iannotti, PhD, Survives Haiti Earthquake; Focuses on Preventing further Public Health Disaster." News and Events, Institute of Public Health, Washington University, St. Louis, 2010.
15. Bourque, Linda, Judith Siegel, Megumi Kano, and Michelle Wood. "Weathering the Storm: The Impact of Hurricanes on Physical and Mental Health." *Shelter from the Storm: Repairing the National Emergency Management System after Hurricane Katrina* (Annals of the American Academy of Political and Social Science) 604 (March 2006): 129-151.
16. *Norovirus Outbreak Among Evacuees from Hurricane Katrina*. Morbidity and Mortality Weekly, Houston: Center for Disease Control, 2005.
17. Manuel, John. "In Katrina's Wake." *Environmental Health Perspectives*, 2006: A32-A39.
18. Chew, Ginger, et al. "Mold and Endotoxin Levels in the Aftermath of Hurricane Katrina: A Pilot Project of Homes in New Orleans Undergoing Renovations." *Environmental Health Perspectives* (Brogan & Partners), December 2006: 1883-1889.
19. Solomon, Gina, Mervi Hjelmroos-Koski, Miriam Rotkin-Ellman, and Katharine Hammond. "Airborne Mold and Endotoxin Concentrations in New Orleans, Louisiana after Flooding, October through November 2005." *Environmental Health Perspectives* (Brogan & Partners) 114, no. 9 (September 2006): 1381-1386.

20. Rodriguez, Havidan, Joseph Trainor, and Enrico Quarantelli. "Rising to the Challenges of a Catastrophe: The Emergent and Prosocial Behavior following Hurricane Katrina." *Shelter from the Storm: Repairing the National Emergency Management System after Hurricane Katrina* (Annals of the American Academy of Political and Social Science) 604 (March 2006): 82-101.
21. "Home Prices Ebb in 2008." *The Times-Picayune*. New Orleans, February 19, 2009.
22. "Percent of People Living Below Twice the Poverty Threshold by Census Block Group in Orleans Parish." New Orleans: The Greater New Orleans Community Data Center, February 3, 2004.
23. Berube, Alan, and Bruce Katz. *Katrina's Window: Confronting Concentrated Poverty Across America*. The Brookings Institution, 2005.
24. Dewan, Shaila. "Louisiana Releases Details on Deaths from Hurricane Katrina and Later Flooding." *The New York Times*, December 10, 2005.
25. Penner, D'Ann, and Keith Ferdinand. *Overcoming Katrina: African American Voices from New Orleans and Beyond*. Palgrave Macmillan, 2009.
26. Nigg, Joanne, John Barnshaw, and Manuel Torres. "Hurricane Katrina and the Flooding of New Orleans: Emergent Issues in Sheltering and Temporary Housing." *Shelter from the Storm: Repairing the National Emergency Management System after Hurricane Katrina*, 2006: 113-128.
27. Brennan, Virginia. *Natural Disasters and Public Health*. Baltimore: The John Hopkins University Press, 2007.
28. Diamond, Jared. *Collapse: How Societies Choose to Fail or Succeed*. New York: Penguin Books, 2005.
29. Stark, Colin. "Why Haiti's Quake Toll Higher than Chile's." *CNN*, February 28, 2010.
30. Mhlanga, Thandanani. "Poor Infrastructure Made Extent of Haiti Earthquake Worse." *Cape Argus*, February 5, 2010.
31. Lacey, Marc, and Simon Romero. "Quake Ignores Class Divisions of a Poor Land." *The New York Times*, January 16, 2010.
32. *CIA World Factbook: Haiti*. <https://www.cia.gov/library/publications/the-world-factbook/geos/ha.html> (accessed March 10, 2010).
33. Braun, Stephen, and Ralph Vartabedian. "Corruption May Have Helped Undermine City Levees." *Los Angeles Times*, November 3, 2005.
34. Van Heerden, Ivor, and Mike Bryan. *The Storm*. New York City: Penguin Books, 2007.
35. Donze, Frank. "For Levee Tour, Inspectors Plotted Their Every Mousse." *The Times-Picayune*, December 1, 2005.

36. Meyers, Lisa. "Is the Orleans Levee Board Doing Its Job?" *MSNBC Investigative Report*, September 15, 2005.
37. *U.S. Foreign Assistance to Haiti, 1990-2005*. Congressional Budget Justifications, U.S. Department of State.
38. Buss, Terry, and Adam Gardner. *Why Foreign Aid to Haiti Failed*. National Academy of Public Administration, 2006.
39. Forelle, Charles, Jose Cordoba, and Joe Lauria. "Aid to Haiti Speeds Up, but Delays Plague Effort." *Wall Street Journal*, January 17, 2010.
40. *CNN*. "Red Cross: State Rebuffed Relief Efforts." September 9, 2005.
41. Thompson, Ginger, and Damien Cave. "Officials Strain to Distribute Aid to Haiti as Violence Rises." *The New York Times*, January 16, 2010.
42. *Time Magazine*. "4 Places Where the System Broke Down." September 11, 2005.
43. Lindell, Michael K., Carla S. Prater and Ronald W. Perry. 2006. "Myths and Realities of Household Disaster Response." Chapter 8 in *Fundamentals of Emergency Management*. Washington, DC: Federal Emergency Management Agency. pp 221-243 (Chapter 8).
44. Tierney, Kathleen. "Metaphors Matter: Disaster Myths, Media Frames, and Their Consequences in Hurricane Katrina." *Shelter from the Storm: Repairing the National Emergency Management System after Hurricane Katrina* (The Annals of the American Academy of Political and Social Science) 604, no. 1 (2006): 57-81.
45. Rodriguez, Havidan, and Russell Dynes. "Finding and Framing Katrina: The Social Construction of Disaster." *Understanding Katrina: Perspectives from the Social Sciences*, 2006.
46. Honore, Russell, interview by CNN. *Gen. Honore: Evacuate the Most Vulnerable Haitians* (January 21, 2010).
47. Protevi, John. *Political Affect: Connecting the Social and Somatic*. Minneapolis: University of Minnesota Press, 2009.
48. Michaels, Walter Benn. *The Trouble with Diversity*. New York City: Metropolitan Press, 2006.
49. Dyson, Michael Eric. *Come Hell or High Water*. Perseus Books Group, 2006.
50. Levitt, Jeremy, and Mathew Whitaker. *Hurricane Katrina: America's Unnatural Disaster*. University of Nebraska Press, 2009.
51. Lipton, Eric. "Aid Agencies Go to Work as Tasks Continue to Mount." *The New York Times*, December 28, 2004.

52. Burke, James Lee. *The Tin Roof Blowdown*. Thompson Gale, 2007.
53. Jervis, Ricky. "New Orleans, Haiti Linked by History and Tragedy." *USA Today*, January 28, 2010.
54. Ignatieff, Michael. "The Broken Contract." *The New York Times*, September 25, 2005.
55. Robinson, Sharron. *Annual Report: Fiscal Year 2006*. Baton Rouge: Louisiana Office of State Inspector General, 2006.