

Recovery Planning After Hurricane Katrina

A Case of Climate Justice

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ABSTRACT

Natural disasters give researchers and practitioners a unique opportunity to rebuild cities in a manner that integrates resilience and disaster risk reduction programs. However, the disaster recovery process is often unequal, and gentrification may occur in post-disaster reconstruction. Previous research reveals that urban transformations within New Orleans, Louisiana in the aftermath of Hurricane Katrina widened the gap between the rich and the poor, led to uneven representation in the City's government during recovery planning, and pushed the most vulnerable individuals away from the city, reducing future opportunities for urban and socio-demographic diversity. This study builds upon this previous research and contends that race and ethnic components were predictors of delayed or discriminatory planning in the rebuilding of New Orleans after Hurricane Katrina. This is especially true for neighborhoods that were home to high concentrations of African Americans before Katrina and experienced a rapid population decline in the aftermath, such as the Lower Ninth Ward. Using the Lower Ninth Ward as a case study, this article highlights the social, economic, and political context of post-Katrina planning and uses spatial analysis to support the theory that reconstruction efforts in the Lower Ninth Ward were discriminatory to African American communities.

Today, Hurricane Katrina is considered one of the worst natural disasters in the United States in the past 90 years. Katrina hit the Gulf Coast on August 29, 2005 and caused approximately 1,836 deaths, mainly in the urban areas of New Orleans. Nearly 50 percent of the victims were 75 years old or older and unable to access private vehicles or public transportation because of sickness or infirmity.¹ Among the victims, 51 percent were African American, 42 percent were white, 2 percent were Hispanic or Latino, and 5 percent were either Indigenous American, Asian, or non-identified ethnicities.²

This paper explores how social vulnerabilities that existed before the disaster served as a tool for the government to create discriminatory outcomes in the recovery process. It explores how race was a predictor of power imbalances reflected in the perpetuation of distributive and procedural injustices in post-disaster recovery. While post-disaster gentrification can have a wide array of implications, this paper explores previous studies that associate uneven rebuilding processes in New Orleans with intentional discrimination against African Americans.

This research focuses on the Lower Ninth Ward a case of environmental and climate injustice, where more than 90 percent of the neighborhood's residents identified as African American or other minority ethnicities and lived in poor or extremely poor conditions. This study contends that the recovery of the Lower Ninth Ward was dictated by gentrification-oriented policies to push black and poor communities out of New Orleans and prevent their relocation within the city's boundaries. The City pursued ineffective planning policy by failing to include residents in decision-making and design processes, which yielded uneven and discriminatory effects among those living in the Lower Ninth Ward. This resulted in the destruction of many black communities that never returned to New Orleans, as well as a loss of cultural and socio-economic diversity.

THE GOVERNMENT'S RESPONSE TO KATRINA: WIDENING DISPLACEMENT AND INJUSTICE

The race-class debate is prominent in disaster research. Class-oriented scholars assert that low- and high-class status – as defined by income, wealth, social ties, and access to goods – are reflected in limited or greater access to pre-disaster evacuation plans, respectively.³ In the case of Hurricane Katrina, low socio-economic status residents tended to live in the most precarious flooding areas and had little or no access to cars or public transportation. As a result, they had a more limited opportunity to escape the natural disaster. In contrast, a race-driven hypothesis proposes that racial differences produced differential responses to Hurricane Katrina in a city that was 68 percent black. Supporters of this theory suggest that race and ethnicity rather than economic factors framed differences in how officials responded to the disaster and organized evacuation plans, and how victims received emotional support post-Katrina.⁴

Often, natural disasters yield unfortunate outcomes that exacerbate pre-existing class and racial disparities and emphasize mistrust in the government's ability to ensure equal conditions for all. Hurricane Katrina brought attention to the Federal Emergency Management Agency's (FEMA) failure to adopt effective disaster mitigation strategies.⁵ FEMA demonstrated a lack of preparedness, leadership, and management decisions in efforts to enhance the resilience of the city's neighborhoods, prepare holistic evacuation plans, and plan in advance.⁶ In an attempt to bridge these gaps and hasten the recovery process in the months after the storm, the federal government adopted the Post-Katrina Emergency Management Reform Act, which reorganized FEMA and advocated for support to evacuees and the needs of the disaster survivors.

The mismanagement of disaster risk is also demonstrated by the displacement and relocation of society's most vulnerable groups. Racism and environmental injustice have been identified as major drivers of post-disaster displacement, and researchers have expressed serious concerns about how racial and social components affected the pace of recovery processes.⁷ Despite the efforts of the Natural Resources Defense Council (NRDC) to encourage a rebuilding plan that gave priority to low-income and minority groups located in the most devastated areas, the city government favored an approach that gave rebuilding priority to the least affected areas, which were generally located in wealthy, white wards.⁸

Failure to provide equal opportunities in recovery decisions sheds light on the intentional exclusion of minority groups from decision-making processes.⁹ Lack of community engagement in rebuilding operations and mobilization of resources is consistent with the definition of "procedural injustice:" unfair procedures, uneven representation and access to benefits, and political injustice.¹⁰ Although this resulted in quick recovery trajectories, the lack of community input hindered minority groups' ability to return to their pre-Katrina lives.¹¹

Residents from the Lower Ninth Ward accused the U.S. Army Corps of Engineers of opening the gates and letting water flood into their houses, a claim that echoed accusations of intentional levee breach following Hurricane Betsy in 1965.¹² From a macro-scale perspective, the whole City of New Orleans experienced environmental justice issues during both hurricanes. Such issues were even more visible at the micro scale in the designation of "sacrifice zones" to disaster-prone neighborhoods located in the Lower Ninth Ward.¹³

The post-disaster economic crisis inflated housing prices. Race served as a discriminant factor in the availability of house contracts or loans, which were awarded to

the most powerful and politically connected individuals who belonged to the wealthy, white class.¹⁴ In contrast, African Americans were issued only small grants, which drastically reduced opportunities to repair or rebuild their houses, if they were still accessible, or access the housing market.¹⁵

Unequal distribution of recovery funds is consistent with the definition of "distributive injustice," as disproportionately large numbers of residents, in particular African Americans, were denied the right to equal treatment in the recovery process, as well opportunities for a fast recovery.¹⁶ This resulted in the destruction of "Black New Orleans," which drastically affected the demographic composition of the city post-Katrina.¹⁷

AN ENVIRONMENTAL JUSTICE PROXY

This study explores recovery dynamics in the Lower Ninth Ward, New Orleans. The Ninth Ward is particularly prone to flooding events due to its precarious geographic location between the Mississippi River to the south, the Industrial Canal to the west, and Lake Pontchartrain to the north (Figure 1).



Figure 1: Data from City of New Orleans, [Alyson Hurt/NPR, 2015].

The Lower Ninth Ward was built as an expansion of the Ninth Ward to accommodate working classes in the 1920s and was physically divided from the Upper Ninth Ward by the construction of the Industrial Canal. It lies on historic marsh land, where construction costs for new housing development were lower than in the rest of the city.¹⁸ However, drying operations and poor management of the ward's levees made the area more vulnerable to floods.

Previous studies recorded only minor damage to structures in the Upper Ninth Ward post-Katrina; the Lower Ninth Ward, however, staged a post-apocalyptic scene. Delayed reconstruction operations in the Lower Ninth Ward prevented most of its residents from returning to their houses for months or, in some cases, permanently. Key impediments for residents included physical inaccessibility to the neighborhood after levee failure, a housing and economic crisis that made the housing market unaffordable, and a lack of targeted reconstruction programs that further isolated the Lower Ninth Ward from the rest of the city.¹⁹

In addition to its physical isolation, the Lower Ninth Ward has historically experienced social and cultural isolation that has yielded discriminatory outcomes for its residents. Over the past century, the incidence of hurricanes and storms that hit the area heavily exacerbated the occurrence of white flight from the Ninth Ward to the suburbs. Many African Americans migrated into the area following Louisiana's Slum Clearance Act in 1952, and throughout the second half of the 20th century, the area was converted to majority black, poor and working-class neighborhoods. Segregation was exacerbated in schools and public facilities as white citizens increasingly refused to share public spaces with their black neighbors.²⁰ By 2000, more than 90 percent of the Lower Ninth Ward residents were African American, and one in three lived in poverty.²¹

The demographic analysis of the City of New Orleans shows that several wards transitioned from a high percentage of African Americans before Katrina (Figure 2) to lower percentages in the years after the hurricane (Figure 3). This was not the case for the Lower Ninth Ward, where the percentage of African Americans remained constant (greater than 93 percent) before and after the hurricane.

Environmental racism also takes place through disproportionate exposure to toxic substances and pollutants. Located between the so-called "Cancer Alley" and the "Hurricane Highway," the Lower Ninth Ward has attracted industrial facilities that, incentivized by cheap land and little resistance from local communities, clustered around the neighborhood and expose the inhabitants to a toxic cocktail of chemicals.²² The spatial concentration of facilities supports the "disparate siting" hypothesis, which suggests that the siting of hazardous facilities in areas inhabited by minority groups is a typical example of environmental injustice.²³

Today, more than 150 petrochemical plants and 2,000 hazardous dump sites are located in the surroundings of the Lower Ninth Ward. In addition, numerous offshore oil rigs are sited in Louisiana's Outer Continental Shelf and account for about 88 percent of all US oil extractions. One hundred twenty nine million pounds of toxins are released annually, increasing the cancer rate in the ward to a level three times the national average.²⁴ The cumulative effects of these toxic combinations yield alarming outcomes for human health that have received minimal research and policy attention.

Katrina increased the toxicity of the area at alarming rates. Flooding coated the area in mud from Lake Pontchartrain and contaminated sediments from industrial sites, which, when mixed with oil leakage, produced a dangerous toxic mixture. As the water receded, large amounts of debris

Percent of Black or African American Population by Census Tract (2000)

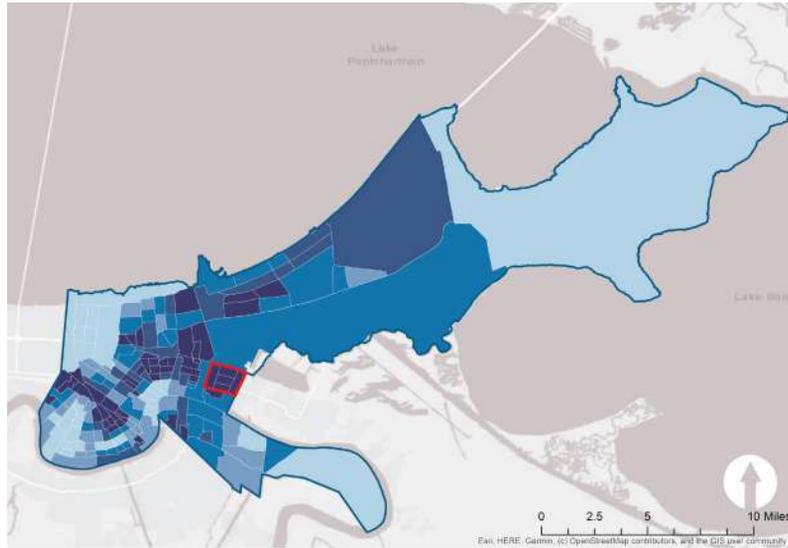
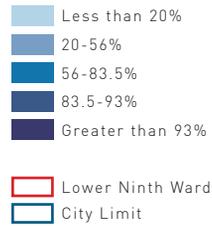


Figure 2: Percent of Population Black or African American in 2000. U.S. Census, 2000. (Emily Korman, 2019).

Percent of Black or African American Population by Census Tract (2010)

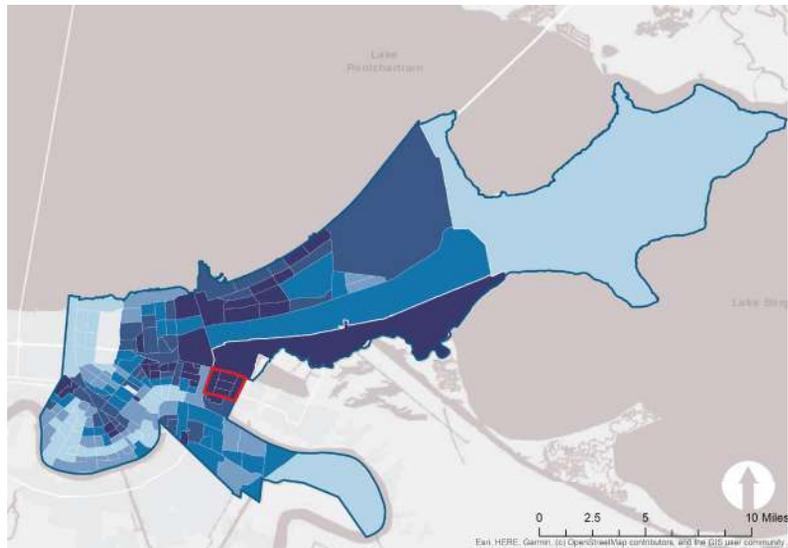
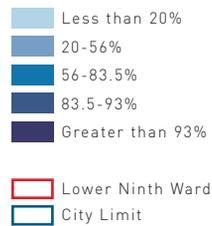


Figure 3: Percent of Population Black or African American in 2000. U.S. Census, 2000. (Emily Korman, 2019).

Percent of Vacant Housing Units (2000)

- 5-25%
- 26-50%
- 51-75%
- Greater than 75%

- Lower Ninth Ward
- City Limit

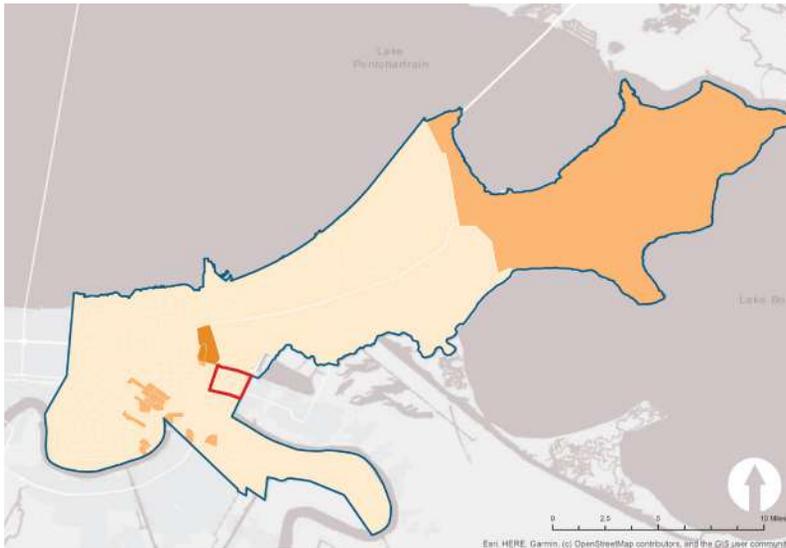


Figure 4: Percent of Vacant Housing Units 2000. U.S. Census, 2000. (Emily Korman, 2019).

Percent of Vacant Housing Units (2010)

- No Vacancy
- 5-25%
- 26-50%
- 51-75%
- Greater than 75%

- Lower Ninth Ward
- City Limit

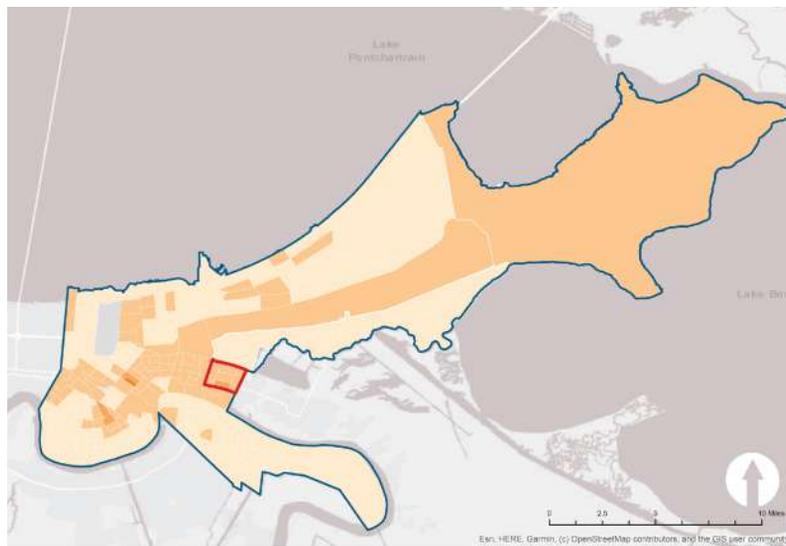


Figure 5: Percent of Vacant Housing Units in 2010. U.S. Census, 2010. (Emily Korman, 2019).

and sediment layers left by Katrina became visible.²⁵ Months after the hurricane, a FEMA investigation of toxic chemicals reported that the formaldehyde level of the soil was 75 times greater than government regulation allows.²⁶

A CHANGING WARD: THE LOWER NINTH WARD BEFORE AND AFTER KATRINA

Limited reconstruction efforts in the Lower Ninth Ward caused the population density to remain low after Katrina. Infrastructures and facilities were poorly managed before the hurricane, and there was little or no maintenance post-Katrina to put them back in place. The decaying conditions of the roads connecting the Lower Ninth Ward to rest of the city prevented many residents from returning to their houses.²⁷

Many housing complexes were demolished and never reconstructed, which prevented a big share of the residents from returning to their properties. The analysis of housing occupancy before and after Katrina shows a significant increase in vacancy level. One in four houses or fewer were vacant in 2000 (Figure 4). Contrarily, after Katrina, most neighborhoods in the Lower Ninth Ward reported 50-75 percent vacancy levels, with some peaks above 75 percent vacancy (Figure 5).

A spatial analysis at block scale provides evidence for this argument. Block 000701-4 depicts the general disinvestment in reconstruction, showing a significant reduction of housing density in the area. In particular, household units decreased from 40 (22 in the lower block and 18 in the upper block) in 2000 (Figure 6) to five units in 2010, all located in the lower block, of which four are existing units and one is new construction (Figure 7).



Figure 6: Housing Density in Block 000701-4, 2000. (Emily Korman, 2019).



Figure 7: Housing Density in Block 000701-4, 2010. (Emily Korman, 2019).

POLICY IMPLICATIONS

This study provides evidence that government policies in the aftermath of Hurricane Katrina enabled the gentrification of New Orleans by prioritizing the development of tourist and higher-income neighborhoods. Particularly interesting is the case of the Lower Ninth Ward, which received the least support from governmental institutions but a significant amount of attention from national and international media due to the extent of damage inflicted by the storm.

This study explores whether socio-demographic indicators are predictors of delayed or absent recovery post-Katrina and reconstruction in the medium- and long-term. My findings seem to align with those of previous studies stating that the hurricane served as an opportunity to relocate African Americans outside the city. Not only did New Orleans undergo a racially restrictive

gentrification process after Katrina, but recovery plans also embodied ideas of “white privilege” and “racial capitalism.”²⁸

Katrina opened a national debate on climate change and its potential destructive effects on local populations.²⁹ The unprecedented hurricane damage and the slow pace of recovery that brought about different outcomes among New Orleans’ societies made it a case of climate justice. The climate justice movement addresses the social and economic impacts caused by extreme weather events to the most vulnerable groups of a society. In the aftermath of a disaster, vulnerable groups are more likely to experience stressors, health disorders, and economic crises including lack of employment, secure income, and material assets. Climate justice scholars advocate for the rights of these groups, providing them with representation in the local governments. Second, the climate justice movement addresses climate action policy, including mitigation and adaptation strategies, by exploring how climate regulations impose inequitable impacts on low socio-economic status groups and racial or ethnic minorities.³⁰

Post-Katrina planning operations across the city remained fragmented and confined to prioritized areas, while other sites were demolished. In particular, governmental decisions openly encouraged the displacement and relocation of African American residents in an effort to prevent New Orleans from being “as black as it was [before Katrina] for a long time, if ever again.”³¹ During an interview, the Department of Housing and Urban Development (HUD) Secretary Alphonse Jackson expressed concerns about the reconstruction of the Ninth Ward, “a predominantly black and poor neighborhood.” Along the same lines, Baton Rouge Congressman Richard Baker celebrated the devastation of Katrina, asserting that “we finally cleaned up public housing in New Orleans. We couldn’t do it, but God did.”³²

Despite several planned rebuilding interventions, implementation was slow or absent. In September 2005, the Bring New Orleans Back Commission was instituted to implement a rebuilding plan by the end of the year. However, the introduction of members from the Urban Land Institute (ULI) into the commission favored a policy of “shrinking the city’s footprint,” a heavily politicized project that advocated for the creation of a greener city through government-financed buyouts.³³ This policy entailed a major shift in land use from residential to services and public green space for some areas, including the Lower Ninth Ward. Controversies in the proposal included overly delayed recovery plans, enhancement of gentrification patterns, and fragmentation of the city’s fabric. During his political campaign, the mayor of New Orleans distanced himself from the ULI’s proposal in favor of citizen-driven reconstruction.³⁴ Lack of trust in the commission and the City’s authorities, along with general dissatisfaction amongst residents, led to the premature end of the program. Once again, New Orleanians perceived lack of engagement and empowerment in policy and decision-making processes. This is especially true in the Lower Ninth Ward, where lack of public attention caused the area to lose a significant share of its residential population. Public disinvestment served as a political instrument to target low-income and African American groups that lived in the area before Katrina, producing intentionally discriminatory outcomes and heavily affecting their rights to such an extent that a large portion never came back.³⁵

In October 2005, the Governor created the Louisiana Recovery Authority (LRA), a board commission in charge of coordinating the distribution of funds among the construction sector by ensuring transparency and accountability.³⁶ LRA’s duties included the providing policy guidance to the Community Development Block Grant funds financed by the federal government. Most of the grant went to the Road Home program, a \$11.1 billion funding project that proved to

hold racial and discriminatory outcomes against black recipients. The program allocated grants on the basis of market values as opposed to construction costs, which restricted eligibility for many black residents.³⁷ Because of this, residents of the Lower Ninth Ward never benefited from this program, and property and land values in the neighborhood – which even before Katrina were low relative to those of the rest of the city – dropped further as a result of the floods.

In December 2005, the Bring New Orleans Back Commission launched the Lambert Plans project, which promoted coordinated planning efforts between architects and planners to target the 49 flooded neighborhoods within the city. After FEMA refused to fund the plan, major funding sources were provided by the LRA (\$7.5 million), the Rockefeller Foundation (\$3.5 million), the Greater New Orleans Foundation (\$1 million), and the Bush-Clinton Katrina Fund (\$1 million).³⁸ However, the lack of approval from the City Planning Commission, coupled with a lack of funding, presented major barriers to the project's success, which increased dissatisfaction amongst the most impacted residents.

Shortly after the hurricane, the mayor cut the City's planning staff drastically, leaving most of the recovery plans unmanaged and further impacting the ability of existing institutions to respond to post-Katrina challenges effectively. Therefore, remaining planning efforts massively targeted short-term rebuilding activities by prioritizing the neighborhoods that were less damaged and more likely to return to their pre-Katrina status with minimum interventions. It was not until 2007 that LRA obtained funding to support the Unified New Orleans Plan (UNOP). UNOP targeted multiple audiences including the New Orleans Redevelopment Authority (NORA) to spur redevelopment in prioritized areas.³⁹ However, lack of communication with and engagement of local

residents in decision making never eased the public's demand for better planning.

CONCLUSION

After natural disasters, recovery plans can yield discriminatory outcomes that exclude minority groups from the rebuilding process. Post-Katrina planning decisions were ineffective in comprehensively addressing the entire population of New Orleans. This paper explored how racial components affected recovery efforts in the hurricane aftermath by causing many African Americans to relocate outside of the city. More specifically, the Lower Ninth Ward was regarded as one of the areas most affected by Katrina in terms of physical damages and loss of its almost entirely black population, and a socio-demographic analysis of the area demonstrates that the Lower Ninth Ward never fully recovered. Housing and population density remained low, suggesting that the City's planning commission disinvested from the area and diverted investments and recovery efforts to more central neighborhoods that met the interests of the wealthier classes and tourists. ■

ABOUT THE AUTHOR

Carol Maione is a Master of Science candidate at the School for Environment and Sustainability at the University of Michigan. She received her Bachelor of Science and Master of Science from Politecnico di Milano, Italy, where she majored in Urban Studies with a focus on urban metabolism and waste generation. Her research interests center on sustainable production and consumption of resources, with a specific focus on plastic materials. She is driven by her commitment to reduce ocean plastic pollution through fostering public awareness of the impacts of plastics on human and non-human communities. Ms. Maione's future research will focus on rethinking industrial processes to align circular economy and zero-waste models.

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