

From Bad to Worse

By Rosalia Polanco

The floodwaters were rushing around the home. She breaks open a window and begins to prop chairs in the open as a way of helping her neighbors get to the roof. It was about 30 of them, including her four-year-old son. They waited. They waited up on the roof for over 15 hours, crying out for any sort of help. Iashia Nelson thought they were all going to dieⁱ.

Nelson recalls August 28, 2017 as a “nightmare”ⁱⁱ. When she escaped her home during Hurricane Harvey, all she had was her purse. Like many Houston residents, she was left having to start over with nothing. She also wasn’t alone – she is also a mother of three.

The eye of the hurricane touched Texas mainland at around 0600 UTC on August 26, 2017. Because Harvey remained stationary for four days, Texas experienced a never-before seen amount of rainfall, amounting to over 60 inches of rain over the southeast. Sixty-eight direct deaths, 300,000 flooded structures, 500,000 flooded cars, and 40,000 sheltered victims later,

Hurricane Harvey is considered the second-most costly hurricane in history, and the deadliest in the state of Texas since 1919ⁱⁱⁱ.

With a hurricane of such magnitude, thousands of families would have to deal with rebuilding homes or starting over entirely, all while supporting their families. Recovery in Texas, however, will have to look a little bit different. The energy capital of the world will have some issues to address and lessons to learn – specifically regarding the vulnerable communities that were already suffering from issues of pollution prior to Harvey. The hurricane has brought environmental justice to the forefront of state and national conversation.

Hurricane Harvey brought back feelings Nelson thought she had left behind in New Orleans, Louisiana in 2005. As a survivor of Hurricane Katrina, Nelson knew the feeling of hopelessness and desperation all too well. Having experienced Hurricane Katrina, however, allowed Nelson to help herself,

her family, and the extended family that housed her as best as they could from Harvey. She made sure the bathroom tub was filled with water, just in case the faucet ran dry -- a common reality after flooding^{iv}.

The feelings brought back by Hurricane Harvey were not only experienced by Nelson and her family. According to the New Orleans Association of Houston, an estimated 250,000 found refuge in Houston after Katrina, and as many as 40,000 eventually made the new city their home^v. For those that remained in the city 12 years later, it was heartbreaking to have to see the way that history repeated itself.

Just how Nelson took Hurricane Katrina as a learning moment, however, other scholars have emphasized using Hurricane Katrina as a learning moment on a larger level. "I think what we have to do is look at some lessons--well, not learned from Katrina," says Robert Bullard, father of environmental justice^{vi}. These lessons not learned pertain to redevelopment, recovery, and rebuilding efforts, which have left many New Orleanians displaced since 2005.

Hurricane Katrina touched land in Louisiana as a Category 3 hurricane at 0610 on August 29, 2005. As the third most intense hurricane to make landfall in the U.S., Katrina caused over 275,000 homes to be destroyed, over 1,300 direct deaths, and over \$80 billion in damages. The levees that breached in New Orleans because of the storm left over 80% of the city under some degree of water, water that reached 20 feet in height in certain areas^{vii}.

Numbers, however, cannot express the impact that Hurricane Katrina had on those that experienced it and the recovery efforts that followed. While the physical damage is always the first thing that is noticed and dealt with, it is the mental trauma that stays behind the longest. A messed-up roof can be rebuilt. Trees that have fallen can be removed from the middle of roads. If the house cannot be recovered, it can be torn down and rebuilt or a new one can be found. But the mental trauma -- the memories that come back at the sight of rain, the stress that is felt when there isn't enough food on the table, the thought of that one family member lost to the waves -- those are the things that are much harder to deal with, and take much longer to recover from.

“We’ve got to leave, it’s going to flood,” says Nelson’s four-year-old son, but it’s only a rain shower^{viii}. Nelson’s response, “No baby, it ain’t going to happen no more,” is both an attempt to calm the baby down, but also a true hope. Through tears, stress, and frustration, the hope of not having to start all over again is ever-present.

Bullard referred to Houston and Hurricane Harvey as “a catastrophe waiting to happen”. As a Houston resident, Bullard has spent a large amount of time exploring the environmental injustices that were already being suffered by Houston residents in underserved communities. “Those communities that historically have borne the burden of the environmental pollution and contamination from these many industries at the same time are the very communities that are bearing disproportionately the burden of this flooding,” he expresses^{ix}.

Houston, Texas is considered the energy capital of the world, calling itself home to over 50 energy companies on the Fortune 1000 list, among those ExxonMobil, ranked second. Within the

Metropolitan Statistical Area of the city, there are over 3,700 energy related establishments. According to GO BIG IN TEXAS®, the official brand for the Texas Economic Development Division within the Office of the Governor, over 40 percent of the nation's base petrochemical capacity is produced in Houston^x.

Because energy and chemical production is a driving force in Texas’ economy, it is to no surprise that there are thousands of facilities doing this kind of work around the state. Within a 16 mile stretch in Houston, there are over 450 of these chemical production sites^{xi}. The presence of waste handling sites, both for residential and chemical waste, also pose a significant threat to thousands of families.

What makes this an environmental justice issue, however, are the locations of these facilities – they are disproportionately placed in low-income communities of color. To a low-income family of five, a 3-bedroom \$700 a month rental home is extremely appealing, and many families will end up sacrificing health because of this. Under the assumption that these communities will not notice, or will not complain about the

foul, dirty air or the acidity of their water, more and more chemical and waste handling plants are brought into the area.

Residents, however, are becoming more and more aware about the strategic placement of these chemical and waste sites. “We know the priorities are Americans - white people, rich people,” says Celia Munoz^{xii}. Munoz lives just outside of Manchester, a Houston suburb. Her eight year old son and six year old daughter have no full-time nurse at school, despite having a chemical plant and junkyard in the vicinity. Her daughter suffers from asthma and eczema.

While residents might be aware of the pollution present in their communities, many still find it difficult to move out. As former Manchester resident and activist Patricia Gonzales puts it, “We don’t have the kind of money that most Anglo people have when they go to higher education, colleges and stuff like that. They go live in the areas where there aren’t refineries. We have to live in areas where we can afford lower-priced homes and so we’re at a disadvantage.”^{xiii} Without financial help, it is even more difficult for these community members to move out after

natural disasters, and so they are left “sitting like ducks,” Gonzales says.

Harvey has largely intensified air pollution in the Houston area, and to Munoz, the hurricane is serving to “mask” the long-term problems being exacerbated by the natural disaster. Not only are these long-term problems, but they are problems that had already existed in the area, and were now intensifying. In the words of Bullard, “you get this pre-existing condition of inequality before the storm” and what follows is further inequality when it comes to addressing the disaster, because of the vulnerability already present^{xiv}.

The reality of human-caused increases in greenhouse gas emissions that has led to an intensified global warming is no longer up for debate. Moving past this, the conversation must include that natural disasters such as Katrina and Harvey are to become the norm – especially as it relates to a storms’ intensity. Despite there being conversations concerning the current visible effects of such climate change and if Hurricane

Harvey was an example of that or not, leading organizations in climate research have ascertained increases in storm intensity and rainfall in the coming years.

According to the Geophysical Fluids Dynamic Laboratory (GFDL) under the National Oceanic and Atmospheric Administration (NOAA), it is expected that global warming will cause more intense hurricanes and storms on a global scale, models projecting a 2 to 11% average increase in intensity. In addition to an increase in overall intensity, there is a projected increase of 10 to 15% in overall rainfall rates.

Although it has been difficult to determine if human-caused climate changes have contributed to storm intensity at the moment, it is with medium confidence that the GFDL asserts increases in general heavy precipitation across the globe. The team has also said that because of sea level rise (which has been affected by human contributions to global warming), we should expect high storm surge levels for future tropical storms as well^{xv}.

If scientists are projecting increases in storm intensity, rainfall, and sea level rise, what does this mean for the inhabitants of this earth looking forward into the middle and end of the 21st century? What does this mean for Iashia Nelson, who told her son the flooding wouldn't happen again? For Celia Munoz, who wants the air her children breathe to be clean, and for the situation to not get worse after a storm?

Communities already suffering from environmental injustices have seen and will continue to see their concerns heightened by climate change. When it comes to disaster relief and allocation of recovery resources, it is imperative that funds be allocated and funneled into these specific communities, or vulnerability to future disasters will only increase. Checking in with Houston residents after 6 months, *Democracy Now!* contributors Amy Goodman and Juan Gonzalez interviewed a range of stakeholder representatives, who have asserted that the necessary recovery efforts were not happening.

“We are being overlooked, continue to be overlooked,” says Cesar Espinoza, an undocumented immigrant activist from Houston, TX^{xvi}. Families that had damage but not deemed

significant enough are being denied funding from FEMA. Undocumented families and communities have not received financial support, and the double-burden of being undocumented and low-income has led many families to be taken advantage of.

Even with the billions of dollars put in to Hurricane Katrina recovery (including billions in federal dollars), there are still areas of New Orleans – like the Lower 9th Ward – that 12 years later have not seen a full turn-around. Currently, FEMA has over \$1.5 billion in approved individual and household program money available for use. The site has not expressed how much money has been used to date, but this is the amount that is entitled to Texas residents. They have a capacity for over 300,000 individual assistance applications, yet only 1,100 had been approved six months later. Loans for recovering businesses are also available, and applications for all assistance can be filled out either online or by phone.

While rebuilding will be an important aspect of recovery, those that were left entirely displaced will be faced with trying to find a new home altogether. With so many people potentially

having to relocate, it is both a financial and emotional battle to be able to move forward. After losing everything once again and having to find a place to relocate, Nelson almost found herself giving up.

“During that down moment, I went inside the bathroom,” she said. “I was crying. Crying and praying and saying, ‘God, I know you’re an on-time God, but I need you more than ever now.’”^{xvii} The process of recovery can be individual, but often it is not. There are families and extended families that must be taken care of, and that heightens the pressure for the head of the family to have to provide. For Nelson, she needed to make sure her family was okay.

Pre-Harvey and post-Harvey pollution remains. What Bullard meant when he said that lessons needed to be learned was said regarding this aspect – vulnerable communities will become even more vulnerable in times of disaster, and resources must be properly allocated to rebuild it effectively. Hurricane Harvey should be an opportunity to put this lesson learned at work – for the families and businesses alike.

One of the very few things Nelson took with her as she fled from Hurricane Katrina was her Bible, and it was the only thing that remained after Hurricane Harvey. She got the Bible after she was baptized at Allegiant Fields Baptist Church, a church no longer standing because of Katrina. It is Nelson's beacon of light – how she holds on to hope. “When something bad happens,” she says, “I always look for the good”.

“Our city has experienced historic devastation with Hurricane Harvey,” says Mayor Sylvester Turner. “But it has also shown us the best in humanity. Throughout Houston's history, we have faced challenges, and built a city that is even better, and more resilient. This time is no different.”^{xviii}

Hurricane Harvey recovery has significant potential for good. The small beacon of light – the heightened visibility of the environmental injustices that are present – is an opportunity for all affected to demand solutions, and many have already taken that opportunity. Community organization *t.e.j.a.s.* asserts that

clean energy, chemical production, and waste management is possible^{xix}. With the ability to rebuild and restructure effectively after Hurricane Harvey, the opportunity must be taken.

Notes

ⁱ Thorbecke, Catherine, 2017.

ⁱⁱ *Ibid.*

ⁱⁱⁱ Blake, Eric, and David Zelinsky, 2018.

^{iv} Andone, Dakin, 2017.

^v Jan, Tracy, and Brittney Martin. 2017.

^{vi} Goodman, Amy, and Juan Gonzalez, 2017.

^{vii} David L. Johnson, 2006.

^{viii} Thorbecke, Catherine, 2017.

^{ix} Goodman, Amy, and Juan Gonzalez, 2017.

^x “Petroleum Refining & Chemical Products.” GO BIG IN TEXAS®.

^{xi} Parras, Juan, and Katherine McFate. 2013.

^{xii} Dart, Tom, 2018.

^{xiii} *Ibid.*

^{xiv} Goodman, Amy, and Juan Gonzalez, 2017.

^{xv} “Global Warming and Hurricanes: An Overview of Current Research Results.” Geophysical Fluids Dynamic Laboratory, January 24, 2018.

^{xvi} Bullard, Robert, Bryan Parras, and Hilton Kelley. Interviewed by Amy Goodman and Juan Gonzalez. *Democracy Now!*, 2018

^{xvii} Quoted in Thorbecke, Catherine, 2017.

^{xviii} Quoted on Houston Recovers home page. “Houston Recovers: City of Houston Disaster Recovery Information”, houstonrecovers.org.

^{xix} “Chemical Security”. t.e.j.a.s..

Works Cited

- Andone, Dakin. "Hurricane Katrina Survivor Flees Floodwaters Again, This Time in Texas." *CNN*. August 29, 2017. <https://www.cnn.com/2017/08/28/us/katrina-survivor-houston-harvey/index.html>.
- Blake, Eric, and David Zelinsky. "National Hurricane Center Tropical Cyclone Report: Hurricane Harvey." *National Oceanic and Atmospheric Administration*, January 23, 2018. https://www.nhc.noaa.gov/data/tcr/AL092017_Harvey.pdf.
- Bullard, Robert, Bryan Parras, and Hilton Kelley. Six Months After Harvey, Environmental Justice and Climate Change Absent From Houston's Recovery Plans. Interview by Amy Goodman and Juan Gonzalez. *Democracy Now!*, February 26, 2018. <http://www.truth-out.org/news/item/43669-six-months-after-harvey-environmental-justice-and-climate-change-absent-from-houston-s-recovery-plans>.
- "Chemical Security". 2014. t.e.j.a.s. September 30, 2014. <http://tejasbarrios.org/chemical/>.
- Dart, Tom. "Environmental Justice in America After Harvey, Houston Suburb Suffers a Persistent Problem: Waves of Foul Air." *The Guardian*. January 29, 2018. <https://www.theguardian.com/us-news/2018/jan/29/houston-manchester-hurricane-harvey-texas-foul-air>.
- "Global Warming and Hurricanes: An Overview of Current Research Results." *Geophysical Fluids Dynamic Laboratory*, January 24, 2018. <https://www.gfdl.noaa.gov/global-warming-and-hurricanes/>.
- Goodman, Amy, and Juan Gonzalez. "Dr. Robert Bullard: Houston's 'Unrestrained Capitalism' Made Harvey 'Catastrophe Waiting to Happen.'" *Democracy Now!*, August 29, 2017.
- Jan, Tracy, and Brittney Martin. 2017. "Houston Took Them in after Katrina. Then Harvey Hit." *Washington Post*, August 29, 2017. <https://www.washingtonpost.com/news/wonk/wp/2017/08/29/houston-took-them-in-after-katrina-then-harvey-hit/>.
- Johnson, David L. "Service Assessment Hurricane Katrina August 23-31, 2005". *National Oceanic and Atmospheric Administration*, June 2006. <https://www.weather.gov/media/publications/assessments/Katrina.pdf>
- Parras, Juan, and Katherine McFate. 2013. "Much Work Remains in West." *Houston Chronicle*. October 20, 2013. <https://www.chron.com/opinion/outlook/article/Much-work-remains-in-West-4911816.php>.

“Petroleum Refining & Chemical Products.” *GO BIG IN TEXAS*®, <https://businessintexas.com/industries/petroleum-refining-chemical-products>.

Thorbecke, Catherine. “Harvey Survivor Who Was Rescued from the Roof on Rebuilding: ‘God Is Looking out for Me.’” *ABC News*, November 13, 2017. <http://abcnews.go.com/US/harvey-survivor-rescued-roof-rebuilding-god/story?id=51104208>.