



THE ECONOMIC IMPLICATIONS OF

Although rebuilding Houston will likely take years, it can lead to improvements like less impervious better surfaces, flood control, greener construction, and homes built at least a few feet off the ground.

HURRICANES AND OTHER NATURAL DISASTERS

ANIRBAN BASU AND JOSEPH NATARELLI

Even before August 29, 2005, when Hurricane Katrina made its landfall as a Category 3 hurricane at Bay St. Louis, Mississippi, with sustained winds over 125 miles per hour, the storm already had quite a history. Several days earlier, Katrina landed just two miles from Fort Lauderdale–Hollywood International Airport. As if mocking humanity, the eye of the hurricane moved directly over the office of the National Hurricane Center (NHC).

Ultimately, the storm altered the history of New Orleans forever, generating total damages that reached \$100 billion. Damage was previously estimated at roughly \$25 billion, but that was before the breaking of New Orleans's levees. The final tally renders Hurricane Katrina the most expensive natural disaster in U.S.

history. As of this writing, Tropical Storm Harvey, impacting Texans and Louisianans precisely 12 years after Katrina, has the potential to displace Katrina as the most expensive natural disaster in the nation's history.¹

We call these disasters for a reason — humans, livestock, pets, and the built environment suffer, often massively. The irony is that the subsequent rebuilding effort creates economic opportunities for various types of service providers, including those in construction.

Adding to the irony, these disasters supply communities with opportunities to rebuild in ways that dramatically improve the quality and capability of their respective built environments. For instance, as reported by *Time*, in the aftermath of Katrina, a slew of stakeholders, including nonprofits, committed millions of dollars to support the construction of green homes in New Orleans. This in turn spurred a green building trend in the city. Within a decade of Katrina, New Orleans emerged as a national model for green building, providing low-

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income homeowners an opportunity to slash energy costs in the process.²

In addition to offering cost savings and accompanying environmental benefits, New Orleans's new green homes have been constructed to better withstand future storms. The Make It Right Foundation, founded by actor Brad Pitt, has built more than 100 homes in New Orleans's Lower Ninth Ward. These homes are elevated five to eight feet off the ground and offer roof access to ensure that residents aren't trapped in attics in the event of a flood, a tragically common occurrence during Katrina.³

However, reconstruction involved far more than the development of green homes by well-meaning nonprofits. By January 2006, New Orleans was adding about 1,500 construction jobs per month. Relative to the first quarter of 2005, the

number of construction jobs had increased by almost one-third just one year later.⁴ Currently, the total number of jobs in New Orleans stands at 575,600, which is 92.9 percent of its pre-Katrina levels.⁵ There are, however, 1,300 more construction jobs now than there were in August 2005.⁶

The momentum spawned by the urgency to rebuild lasted for years despite the collapse of construction activity in much of the balance of the United States during and in the wake of the global financial crisis. A 2016 New Orleans' *Times-Picayune* article notes that more than \$3 billion in private investment has helped fund real estate projects in the New Orleans Downtown Development District. The article also indicates that the population within the city's central business district has more than doubled since Katrina.⁷

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New Orleans is hardly alone. According to a 2013 article, Staten Island added 2,200 new jobs, representing a nearly 3 percent increase, during the year following Hurricane Sandy. Most of those jobs were in construction. According to Linda Baran, President of the Staten Island Chamber of Commerce, “There were a lot of licensed plumbers, heating and air conditioning people, and contractors who right after Sandy had to hire extra people to help rebuild.... Before Sandy, the construction industry was really flat.”⁸

Just as New Orleans was reshaped by Katrina, Houston will undoubtedly be reshaped by Harvey. It’s important to note that while there will be opportunities to create a better Houston, many of the beneficiaries may not be today’s residents. That was certainly the story in New Orleans, which initially resulted in large-scale outmigration and population loss, including to Houston itself, ironically. Once rebuilding began in earnest, some people moved back, but many were newcomers to the Big Easy.

One of the major culprits is insurance, or lack thereof. Hurricane Harvey, which came ashore roughly 30 miles north of Corpus Christi on August 25, 2017, may inflict as much as \$30 billion in damages to homeowners, according to very early preliminary estimates.⁹ But as reported by *The New York Times*, only 40 percent of the total may be covered by insurance.¹⁰ The federal government will bear the largest liability.

Private homeowners’ policies generally cover wind damage and, in certain instances, water damage attributable to storm surges. However, for roughly half a century, all other homeowners’ flood coverage has been underwritten by the National Flood Insurance Program (NFIP), a federal program that itself faces an uncertain financial future. NFIP is run by the Federal Emergency Management Agency, which owes \$23 billion in funds borrowed to cover the expenditures of past disasters, according to a recent U.S. Government Accountability Office report.¹¹

Homeowners in areas designated as 100-year flood zones are required to maintain policies from the federal program.

In practice, this requirement is difficult to enforce and most people, including those in East Texas, fail to secure coverage or allow their policies to lapse. The Consumer Federation of America estimates that only two in ten people impacted by Harvey have coverage.¹² People in these areas have complained for years that the premiums for flood insurance are too high, but they would be even higher if not for federal subsidies.

There has of course been flooding in non-flood plain areas. According to research firm CoreLogic, approximately 1.2 million properties in the Houston–Sugarland–Baytown area are at high to moderate risk of flooding, but are not in a designated flood zone requiring insurance. As reported by *USA Today*, that’s roughly half of all properties — commercial and residential — in that area.¹³

Toward a new Houston

If the events surrounding Katrina are any indication, rebuilding Houston will require years. It will be a new Houston, probably a better one. This means that it will be a Houston with less impervious surfaces, better flood control, greener construction, and homes built at least a few feet off the ground. A decade from now, we may very well be speaking of Houston as the model for the next city that faces a natural disaster.

Hurricane Irma

Hurricane Irma, which hit Florida shortly after Harvey struck Texas, had the potential to be the costliest hurricane in U.S. history. The storm lost power before it made landfall, although early estimates say the state could see up to \$50 billion in economic damages.¹⁴ If Florida is able to recover like it did when Hurricane Andrew tore through the state 25 years ago, then the recovery should mitigate some of the damages. In September 1992, a month after Andrew hit Florida, the state saw double-digit gains in construction employment.¹⁵ This increase in construction employment persisted until the end of the following year. ■

NOTES

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