The Quest for Environmental, Climate and Racial Justice in the United States

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Connecting the dots...
Books that I have Written:

*It's just one book, but don't tell anybody...*

- Invisible Houston
- Dumping in Dixie
- In Search of the New South
- Growth and Decline of a Sunbelt Boomtown
- Confronting Environmental Racism
- Residential Apartheid
- Unequal Protection
- Just Transportation
- Sprawl City

- Just Sustainabilities
- Highway Robbery
- The Quest for Environmental Justice
- Growing Smarter
- The Black Metropolis in the Twenty-First Century
- Race, Place, and Environmental Justice After Hurricane Katrina
- The Wrong Complexion for Protection
Redefining the Environment

- Where We Live
- Where We Work
- Where We Play
- Where We Learn
- Where We Pray
- Physical and Natural World
Environmental Justice Principle

- Environmental justice embraces the principle that all people and communities are entitled to equal protection of environmental, energy, health, employment, education, housing, transportation, and civil rights laws.
Geographic and Spatial Inequality

In the United States, all communities are not created equal.

If a community happens to be poor, working class or inhabited largely by people of color, it generally receives less protection.

Historically, exploitation of land and exploitation of people are highly correlated.
What is Environmental Racism?

• Environmental racism refers to any policy, practice, or directive that differentially affects or disadvantages (whether intended or unintended) individuals, groups, or communities based on race or color.
Impact of Environmental Racism

ENVIRONMENTAL RACISM:

• Harms people and places
• Steals health and wealth
• Diminishes quality of life
• Violates civil rights and equal protection guaranteed under the U.S. Constitution
41 Years Since *Bean* 1979-2020

- *Bean v. Southwestern Waste Management Corp.* (1979)
- Black Houstonians challenged the siting of a sanitary landfill in their neighborhood
Assault on Environmental Racism - 1979

- The 1979 *Bean v. Southwestern Waste Management Corp.* case was the nation’s first lawsuit to challenge environmental racism using civil rights law.

- Research for the *Bean* case was conducted at Texas Southern University, resulting in the groundbreaking *Houston Waste Sites and the Black Community Study* (1979).
Warren County, NC - 1982

- The environmental justice movement was born in rural Warren County, NC
- Triple “whammy” of rural, poor, and mostly black
- Over 500 demonstrators were arrested protesting the siting of a hazardous polychlorinated biphenyl (PCB) landfill
We Care About Our Future!
Don't Harm the Lives of Generations To Come.

WE CARE TOO!!
WARREN COUNTY YOUTH
The United Church of Christ Commission for Racial Justice produced the first national study linking race and the location of hazardous waste sites.

People of color made up one third of residents within 2-miles radius of facilities.
Dumping on Blacks in the South – 1990

- DUMPING IN DIXIE was the first book to document the connection between waste dumping, pollution, income and race
- No accident the South or Dixie is the most environmentally degraded region in the United States
Racial and Spatial Inequality - 1994

- In the United States, all communities are not created equal
- If a community happens to be poor, working class or inhabited largely by people of color, it generally receives less protection
- Historically, exploitation of land and exploitation of people are highly correlated
Residential Apartheid - 1994

- Racist housing policies and practices created and perpetuated residential apartheid
- America is segregated, and so is pollution
- Poor housing and neighborhood factors can lead to avoidable health costs and bad health outcomes
GEOGRAPHIC FOOTPRINT OF AMERICAN APARTHEID
FIGURE 3: PERCENTAGE AFRICAN AMERICAN BY COUNTY

Sources: William H. Frey; U.S. Census Bureau estimates.
FIGURE 2: PERCENTAGE HISPANIC BY COUNTY

Sources: William H. Frey; U.S. Census Bureau estimates.

Grassroots Struggles to Dismantle Environmental Racism in the United States

Source: Bullard et. al (2007)
Toxic Waste and Race

- Race is a significant predictor of commercial hazardous waste locations.
- People of color make up most (56%) of those living in neighborhoods within two miles of commercial hazardous waste facilities.
- People of color make up over two-thirds (69%) of those living near clustered facilities.
- People of color are more concentrated in areas with commercial hazardous sites in 2007 than in 1987.
Your Zip Code Matters

- Where you live can affect your health and your quality of life
- **Zip Code** is the most powerful predictor of health and well-being
- Wealth and health are correlated
- The poorest people within the U.S. have the worst health and the most degraded physical environments
No Car and No Supermarket Store Within a Mile

SOURCE: Department of Agriculture, Centers for Disease Control
Every state ranked by healthiness, 2018

Rank based on behaviors, environmental factors, policies, medical care, and outcomes

Most healthy  |  Least healthy

Source: United Health Foundation
MAP 2 Life Expectancy by Congressional District

Source: Social Science Research Council (2015)
Lung Cancer Distribution in the U.S.
MY NEIGHBORHOOD IS KILLING ME
Who is Most Likely to Get Polluted?

- EPA found in 46 states, people of color live with more air pollution than whites.
- African Americans are exposed to 1.54 times more fine particulate matter than whites.
- Hispanics are exposed to 1.2 times.
- Those below poverty are exposed 1.35 times more than those above poverty.

Source: Mikati et al. (2018)
Living with More Pollution

- Blacks are 79% more likely than whites to live where industrial pollution poses the greatest health danger.
- Blacks in 19 states are more than twice as likely as whites to live in neighborhoods with high pollution levels.
- Similar pattern for other groups:
  - Hispanics in 12 states
  - Asians in 7 states

Source: Associated Press (2005)
Dumping on Black Middle Class

- Unequal burden of pollution cannot be reduced to a “poverty thing”
- Black households with incomes between $50,000 and $60,000 live in neighborhoods that are more polluted than the average neighborhood in which white households with incomes below $10,000 live

Source: Downey and Hawkins (2008)
I CAN'T BREATHE
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Inequality in the Air We Breathe

- America is still segregated and so is pollution
- University of Minnesota researchers found people of color breathe 38% more polluted air than whites
- People of color are exposed to 46% more nitrogen oxide than whites

Source: Clark, Millet and Marshall (2014)
Breathe at Your Own Risk

- Air pollution still causes **200,000** early deaths each year.
- A 2017 Harvard University study found African Americans are nearly **three times** more likely to die from exposure to airborne pollutants than other Americans.
- Reducing current levels of fine particulate matter (PM2.5) by just one microgram per cubic meter of air would save about **12,000** lives every year, the scientists found.

Source: Di et al. (2017)
Breathing Other People’s Pollution

- Blacks and Latinos are disproportionately “burdened” with breathing air that's been polluted by whites.
- Blacks are exposed to 56 percent more pollution than caused by their consumption.
- Latinos are exposed to 63 percent more pollution than they cause.
- Whites enjoy a "pollution advantage," meaning they breathe 17 percent less air pollution than they cause.

Source: Tessum et al. (2019)
Two million people live within three miles of the top twelve “dirtiest” coal fired power plants. 76 percent of these residents are people of color and the average per capita income is $14,626, compared with the national average of $21,587. People of color make up just only 37 percent of the U.S. population in 2012.

Source: NAACP (2012)
Getting Off Coal Saves Lives

More than 26,000 lives in the U.S. were saved from 2005-2016 with the closure of 334 coal-fired power plants.

Decommissioning of dirty coal plants was associated with reduced nearby pollution concentrations and reductions in mortality and increase in crop yield.

Source: Burney (2020)
Plant Closure = Fewer ER Visits

- Emergency room visits for asthma dropped the year after a Pittsburgh polluting power plant shut down.
- After the Shenango power plant closed, the rate of physician-diagnosed asthma in elementary school students in the region decreased from 25.3 percent to 19.1 percent, and the rate of uncontrolled asthma dropped from 64.9 percent to 37.9 percent.

Source: Allegheny County Health Department (2018)
Air Toxics Linked to Student Academic Performance

• **California** researchers nearly a decade ago found a clear link between toxics near schools and student academic performance in Los Angeles (Pastor et al. 2006)

• In **Michigan**, schools located in areas with the highest air pollution levels had the lowest attendance rates and the highest proportions of students who failed to meet state educational testing standards (Mohai et al. 2011)

• In **El Paso, Texas**, residential exposure to air toxics was linked to lower GPA among school children (Clark-Reyna et al. 2016)
Asthma and People of Color

• African Americans are almost three times more likely than whites to die from asthma related causes.

• Black children are 4 times more likely to be admitted to the hospital for asthma, as compared to non-Hispanic white children.

• African American children have an asthma death rate ten times that of non-Hispanic white children.

Source: CDC (2017)
CONVERGING THREATS
Particulate Matter and COVID-19

- An April 2020 Harvard study found air pollution linked to higher COVID-19 deaths.
- Persons living in areas with high levels of fine particulate matter (PM2.5) were 15 percent more likely to die from the coronavirus than someone in a region with one unit less of the fine particulate pollution.

Source: Wu et al. (2020)
COVID-19 Tracking Hot Spots
Footprint of Racial Redlining

- Racial redlining practiced against black people a century ago is showing up in urban heat island disparities today.
- Redlined black neighborhoods are 5-13 degrees Fahrenheit warmer than non-redlined neighborhood.
- Redlining is also implicated in high COVID-19 dangers in segregated black and brown communities.

Source: Hoffman et al. (2020); and Nemeth and Rowan (2020).
Will the government response to climate change be *fair*?
Some Communities Have the Wrong Complexion for Protection

- Long before Hurricane Katrina devastated the U.S. Gulf Coast, people of color learned the hard way that waiting for government to respond can be hazardous to their health and the health of their communities.
- Government response to natural and human-made disasters over the past eight decades has not treated all communities equally and fairly.
I DON'T BELIEVE IN GLOBAL WARMING
Entering the state of DENIAL
U.S. Governors’ Positions on Climate and Clean Energy

Source: Center for American Progress (2014)
State-level renewable electricity standards are a leading driver of wind, solar, and other renewable development in the United States. Twenty-nine states and the District of Columbia have renewable electricity standards in place, 17 of which have set targets at 20 percent or greater. Another eight states have voluntary targets for renewable electricity.
Status of State Climate Adaptation Plans

Source: National Climate Assessment (2014)
VULNERABLE PLACES AND VULNERABLE PEOPLE
The 2018 *National Climate Assessment* (NCA4) states, “climate change creates new risks and exacerbates existing vulnerabilities in communities across the United States, presenting growing challenges to human health and safety, quality of life, and the rate of economic growth.”

Severe weather events and climate-related disasters in the south have outnumbered similar events in other areas of the U.S. annually in both scale and magnitude by a ratio of almost 4:1 during the past 10 years.

The Southeast for the period 1980-2012 had more billion-dollar disasters than all other regions combined.
Extreme weather events causing at least $1 billion in economic losses by state: **1990s**


Extreme weather events causing at least $1 billion in economic losses by state: **Last decade** (2007-2016)

Climate change will exacerbate existing inequalities and worsen vulnerabilities of already marginalized populations.
Climate Change and Heat Stress

- Climate change is predicted to increase heat-related deaths.
- Heat island risk is greatest in hyper-segregated cities.
- A 2008 study by The Environmental Justice and Climate Change Initiative found heat-related deaths among Blacks occur at a 150 to 200 percent greater rate than for non-Hispanic Whites.
Heat Islands and Racial Justice

- Researchers at UC Berkeley found blacks were 52% more likely than whites to live in urban heat islands, while Asians were 32% more likely and Latinos were 21% more likely.

- Blacks have a 5.3 percent higher prevalence of heat-related mortality than whites, and 64 percent of this disparity is traced to disparities in home air conditioning (Jesdale et al. 2013).
Climate Change and “Bad Air Days”

- Over 133.9 million people (41 percent) live in the 215 counties that had unhealthy ozone or particle pollution in 2014-2016.
- Future climate change is expected to increase the number of “unhealthy air” days—days that exceed EPA ambient air quality standards.

Source: American Lung Association (2018)
Transportation Pollution and Health

- Nearly half of the nation’s population – 150 million people breathed polluted air, including particulate matter, ozone and other smog-forming emissions.

- Air pollution in the U.S. is responsible for over 30,000 premature deaths each year and reduced life expectancy.

Source: American Lung Association (2020)
Transportation and Climate Change

- Transportation accounts for the largest portion (28%) of greenhouse gas emissions in the U.S.
- The majority of transportation greenhouse gas emissions are from light-duty vehicles.
- The health and economic impacts of climate change fall disproportionately on low income and people of color households.

Source: U.S. EPA (2020)
Transportation Justice

- My 1997 *Just Transportation* book framed transportation as a civil rights, environmental, economic and racial justice issue

- Transportation justice is climate justice

- Transportation affects residential and industrial growth, and physical and social mobility
The Battle of Roads vs Transit

• Racism has shaped much of the funding, planning, location, infrastructure, design, and policing of public transportation in America

• Public roads have been given priority over public transit

• My 2004 book, *Highway Robbery*, Foreword by Congressman John Lewis, illustrates the contributions of transportation policy, and transportation tax dollars, to racial and economic inequality
Benefits of Reducing Emissions

- EPA programs to reduce transportation emissions have resulted in less smog and soot, significantly better air quality and better health for Americans.

- By 2030, EPA air quality emissions standards for vehicles are projected to annually prevent, 40,000 premature deaths, 34,000 avoided hospitalizations, and 4.8 million work days lost.
Benefits of Multimodality

• Diverse green transportation systems have a variety of benefits for cities and people, including improved health, lower cost, less pollution and decrease in income inequality

• Green transit can play a critical role in closing the racial unemployment gap

Source: Covington (2018)
Air Pollution Unequal Burden

- Climate change will increase the number of “bad air days” and pose significant health threats, including cardiovascular, respiratory allergies, and asthma, with an unequal burden falling on low income and people of color households.
Heat, Pollution & Pregnancy Risks

- Women exposed to high temperatures or air pollution are more likely to have premature, underweight or stillborn babies.
- Black mothers and their babies are harmed at a much higher rate than the population at large.
- Policy makers need to address environmental, racial, economic and reproductive justice in their heat emergency response and planning.

Source: Bekkar et al. (2020)
CLIMATE CHANGE WILL EXACERBATE EXISTING ENVIRONMENTAL DISPARITIES
Protecting the Most Vulnerable

- In major disasters, the most vulnerable populations generally suffer the earliest and most damaging setbacks because of where they live, their limited income and economic means, and their lack of access to health care.

- Social vulnerability involves the basic provision of health care, the livability of places, overall indicators of quality of life, and accessibility of lifelines (goods, services, emergency response personnel), capital, and political representation.
Hurricane Katrina
New Orleans (2005)
IN THE WAKE OF THE STORM
ENVIRONMENT, DISASTER, AND RACE AFTER KATRINA

A REPORT FROM THE RUSSELL SAGE FOUNDATION

MANUEL PASTOR, ROBERT D. BULLARD, JAMES K. BOYCE,
ALICE FOTHERGILL, RACHEL MORELLO-FROSCH, BEVERLY WRIGHT
Katrina Flooding in New Orleans
as of September 2, 2005, four days after hurricane

Map by Richard Campanella, "Bienville's Dilemma: A Historical Geography of New Orleans" (Lafayette: University of Louisiana Press, 2008)
Washed Away by Katrina
The water is rising.
Hurricane Harvey
Houston (2017)
A recent study of Hurricane Harvey found storm-induced “flooding was significantly greater in Houston neighborhoods with a higher proportion of non-Hispanic Black and socioeconomically deprived residents.”

Source: Chakraborty et al. (2019)
A recent study of Hurricane Harvey found storm-induced “flooding was significantly greater in Houston neighborhoods with a higher proportion of non-Hispanic Black and socioeconomically deprived residents.”

Flooding risks often mirror racialized housing, land use, environmental protection, and funding priorities.

Source: Chakraborty et al. (2019)
TRAPPED IN FLOODPLAINS
Residents who live in federally assisted housing located in floodplains are given a false choice: Sink or Swim!
Unsafe to Stay, Unable to Go

- Nationwide, 450,000 government-subsidized households, about 8 to 9 percent, are in flood plains.
- HUD does not currently have a universal policy against paying for housing in a designated flood zone.
- Residents of Houston’s Arbor Court Apartments—who were hit by Hurricane Harvey and two previous floods—are trapped in a flood zone because their housing vouchers can be used only at their existing apartment, which is near a bayou.

Climate Change Will Hit Poor and People of Color in South Hardest

- A 2017 UC Berkeley study found without effective climate action the nation as a whole could see as much 6 percent shaved off of its GDP by the end of this century.
- Parts of the American South hit hardest with more than a 20 percent drop in economic activity due to global warming by the end of the century.

Climate-related costs by 2080-2099
Share of 2012 county income

Note: Emissions projections are based on a “business-as-usual” scenario (RCP8.5), which reflects the current global trajectory.
Source: Hsiang and others, 2017
CLIMATE CHANGE WILL WIDEN INCOME AND WEALTH GAP
Income Inequality in the U.S.

- Income inequality is especially problematic for the Deep South which has the worst chance of its residents going from the bottom income level to the top.
- Eleven of the 20 states with the highest income inequality are in the South.
- Source: Chetty (2018)
The Geography of Upward Mobility in the United States
Chances of Reaching the Top Fifth Starting from the Bottom Fifth by Metro Area

Seattle 10.9%
Minneapolis 8.5%
Cleveland 5.1%
Boston 10.5%
San Francisco Bay Area 12.9%
Salt Lake City 10.8%
Washington DC 11.0%
Charlotte 4.4%
Atlanta 4.5%

Note: Green = More Upward Mobility, Red = Less Upward Mobility
Source: The Equality of Opportunity Project

Source: Chetty (2018)
Disasters Widen Racial Wealth in U.S.

- Climate change will widen the racial wealth gap.
- Researchers from Rice University and the University of Pittsburgh found, in counties badly hit by natural disasters (areas with at least $10 billion in damages) white communities gained an average $126,000 in wealth following the damage and recovery efforts.
- Communities of color lose up to $29,000 on average in personal wealth following events like hurricanes and wildfires.
Racial Wealth Inequality

- Black wealth is roughly one tenth of white wealth.
- In 2016, the median wealth for black and Hispanic families was $17,600 and $20,700, respectively, compared with white families’ median wealth of $171,000.

Source: Solomon and Weller (2018)
Disaster Buyouts Benefit Whites

- FEMA’s cost-benefit calculations for disaster buyouts inherently benefit affluent whites.
- Generally, federal disaster buyout funds don’t follow need.
- The most FEMA buyouts were in neighborhoods 85 percent or more white, even though whites make up about 62 percent of the U.S. population.

“CLIMATE GENTRIFICATION”

1. Money Follows Money
2. Money Follows Power
3. Money Follows Whites
Managed Retreat Leaves the Most Vulnerable People Behind

- A 2019 study analyzing more than 40,000 voluntary buyouts of flood-prone properties in the United States, in which homeowners sell properties to the government and the land is restored to open space, found FEMA’s program to help Americans adapt to climate change isn’t helping everyone
- The nation’s most vulnerable population is being left behind
- Local governments in counties with higher population and income are more likely to administer buyouts

Mach et al. (2019)
Number of Properties Bought Out by FEMA Through Their Flood Risk Mitigation Program - 1989–2017

Source: Science Advances (2019)
Building Just and Sustainable Communities

- Sustainability plans must address environmental and racial justice
  - transportation racism
  - equitable development
  - families below poverty
  - widening health, income and wealth gap
- Addressing equity is a prerequisite to achieving healthy and resilient communities
Thank You!

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