

WATER INJUSTICE:

ECONOMIC AND RACIAL DISPARITIES IN ACCESS TO SAFE AND CLEAN WATER IN THE UNITED STATES



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Across the United States, toxic water and unaffordable water bills are infringing on the basic human rights of poor people and communities of color. The dangers of unsafe water and the financial burdens of upgrading aging water systems are not borne equally. Water contamination, unaffordable utility bills and lack of basic services disproportionately affect low-income households and people of color. The federal government needs to invest in water infrastructure to help ensure universal access to safe drinking water and reliable wastewater disposal. Improving our water systems is an issue of public and environmental health, and it is an issue of economic and racial justice.

Growing Needs and Unaffordable Service

Loss of federal support. Federal funding for water and sewer systems has fallen by 74 percent in real dollars since its peak in 1977.¹ At the same time, our water pipes are aging and need to be replaced, while treatment plants need updates to comply with stronger water quality regulations.² Water utilities must spend at least \$697 billion over the next two decades to provide safe water and to help keep waterways clean.³ In the absence of additional federal support, local governments are having to raise water service charges to make necessary improvements.⁴

Unaffordable bills. Localities are grappling with water service costs that are increasingly unaffordable for more and more of their residents.⁵ This problem becomes especially complex in this period of widening income inequality and

reliance on regressive water billing practices, which cause low-income households to pay a disproportionate amount of their income for their water bills.⁶ One study found that water rates are already unaffordable for nearly 12 percent of households in the United States.⁷ In the next five years, because of increasing water prices, more than one in three households could be unable to afford their water bills, and water privatization could make this affordability challenge more severe.⁸

The problem is acute in old industrial cities with declining populations that no longer have the population base to support the existing water infrastructure, repair aging systems, replace lead pipes and stop sewer overflows.⁹ These cities have had to increase water rates to offset lost revenue from the declining customer base.¹⁰ Economically distressed cities have large numbers of households living in poverty, high

unemployment rates and low household incomes.¹¹ Residents of economically distressed cities are also disproportionately Black or African American.¹²

A study of Michigan found that communities of color pay higher average household water bills than communities with lower percentages of racial minorities. This structural inequity may result from the dual loss of population and industry in Rust Belt cities, leaving the remaining residents to pay the full cost of water systems that had been built out to support more people and businesses.¹³ Because people of color had fewer resources to move when jobs left, according to the study, they were “left to pay for the crumbling infrastructure legacy of a bygone economic era.”¹⁴

Shutoffs. One consequence of unaffordable water bills has been widespread water shutoffs in communities across the country. Many people are losing water service simply because they cannot afford to pay ever-increasing water rates. Water shutoffs are threatening public health, community wellbeing and basic human dignity. Without running water, people cannot cook, clean, shower, wash their hands or flush their toilets.

In 2015, Detroit, Michigan shut off water service to nearly 24,000 households, and Baltimore, Maryland shut off water service to more than 8,000 households, mostly in the lowest-income areas of the city.¹⁵ In Philadelphia, Pennsylvania, where about 40 percent of residents were behind on their water bills in 2015, a number of residents who are low-income and African American have lived for years without running water in their homes.¹⁶ A study of Boston, Massachusetts found that there were significantly more water shutoff notices sent to wards with higher proportions of people of color.¹⁷

In economically distressed cities, the proportion of people who experience water shutoffs is shocking. In 2015, about one in five customers in New Orleans, Louisiana and in Gary, Indiana had their service cut off. That year, about one in eight customers lost water service in Birmingham, Alabama; Detroit; and Youngstown, Ohio.¹⁸ These cities have several characteristics in common, including declining populations, high rates of poverty and populations that are majority people of color.¹⁹

Collateral consequences. Unaffordable water service can tear families apart. Lack of running water can be a reason that parents and other guardians lose custody of children.²⁰ Lack of water access in the home may be considered child neglect in 21 states, and water shutoffs have led to children being taken from their homes under child protection laws.²¹

Unaffordable water bills can lead to evictions and tax foreclosures. In some cities, like Baltimore, landlords can evict tenants who cannot afford their water bills, and homeowners can see their unpaid water bills added as tax liens that can allow a city to seize and sell a person’s home over unpaid water bills.²²

Unaffordable water bills can have community-wide consequences. An analysis from We the People of Detroit found that widespread water shutoffs were targeted at and dismantling African American neighborhoods in Detroit.²³

Water contamination

Low-income communities and communities of color appear to disproportionately experience contaminated tap water, and to have greater difficulties addressing that contamination, although the issue is understudied and there are large gaps in data on the demographic characteristics of community water systems.²⁴

Here are some of the ways that water contamination and water pollution are disproportionately affecting low-income households and communities of color:

Water quality in schools. In California, schools with unsafe water served higher proportions of Latino and low-income students.²⁵

Lead pipes and plumbing. Black children are three times more likely than white children to have elevated blood lead levels, according to an analysis of data from the National Health and Nutrition Examination Surveys from 1988 to 2004.²⁶ A 2016 literature review found that low-income children have the highest blood lead levels, but after adjusting for income, racial disparities persist. Low-income black children have higher blood lead levels than low-income white children.²⁷ Lead is a dangerous neurotoxin that causes a range of problems including developmental delays.²⁸ It can harm every major system of the human body.²⁹

On average, tap water makes up an estimated 10 to 20 percent of children’s exposure to lead, but in certain cases, it can be the primary source of exposure.³⁰ For example, it can account for more than 85 percent of the lead exposure for infants relying on



Environmental Injustice in Flint, Michigan

“The Flint water crisis is a clear case of environmental injustice.”

—FLINT WATER ADVISORY TASK FORCE, MARCH 2016.³⁷

In Flint, where 57 percent of the population is Black or African American and 42 percent of people are living in poverty,³⁸ Governor Rick Snyder appointed a series of financial managers who took control of the city and made the devastating decisions that led to the Flint Water Crisis.

In 2014, an emergency manager unilaterally decided to switch the city’s water supply from the Detroit water system to the polluted Flint River, claiming that it would cut costs.³⁹ Almost immediately, Flint residents reported serious problems from discolored, sewage-smelling water to rashes and unexplained illnesses, but the emergency manager and state officials ignored and dismissed their concerns.⁴⁰

Over the next year, Flint repeatedly violated water quality standards because of bacterial contamination and high levels of disinfectant byproducts, and the corrosive water of the Flint River caused lead to leach from the pipes and plumbing, creating a public health crisis.⁴¹

The change in the water source doubled the proportion of children citywide that had high levels of lead in their blood and was associated with a deadly outbreak of Legionnaires’ disease.⁴² Within the city, elevated lead levels in the water were directly associated with elevated lead levels in children’s blood. The lead poisoning disproportionately affected African-American and low-income neighborhoods.⁴³ In two city wards, the proportion of children with high blood lead levels tripled.⁴⁴ Lead poisoning will have lasting consequences for the people of Flint.

powdered and concentrated formula mixed with tap water.³¹ Water pipes and plumbing have been found to be a significant source of lead exposure in Mexican-American children.³²

Lead contamination of tap water disproportionately impacts economically depressed cities and communities of color, from Jackson, Mississippi, to Ithaca, New York,³³ to Flint, Michigan (see box). An estimated 15 to 22 million people in the United States receive their tap water through a lead service line.³⁴ Older neighborhoods are more likely to have lead service lines and often disproportionately comprise low-income households and people of color, suggesting that there may be disparities in lead risks from tap water.³⁵

Lead at the tap is also an acute and understudied problem in rural and remote communities nationwide. According to a 2016 investigation by USA Today, 4 million people served by small water systems unknowingly face the threat of lead contamination in their tap water because their utilities failed to adequately test for it.³⁶

Industrial agriculture. In California’s San Joaquin Valley, where industrial agriculture has contaminated water supplies, Latino and low-income communities may be disproportionately exposed to high levels of nitrate, which can cause blue-baby syndrome and long-term health problems.⁴⁵ In this region, community water systems serving higher proportions of people of color were 2.6 times as likely to violate water quality regulations for arsenic, a carcinogen.⁴⁶

In Tulare County, among the poorest and top agricultural-producing counties in California, where most residents are Latino, one in five water systems had unsafe levels of nitrate and regularly violated water quality regulations.⁴⁷ In the Yakima Valley, Washington, low-income Latino households rely on groundwater wells, and 12 percent of these wells are contaminated with unsafe levels of nitrate.⁴⁸

Uranium mining. There are more than 500 abandoned uranium mines throughout the Navajo Nation, left over from the Cold War.⁴⁹ An analysis of water supplies in the Navajo Nation found disproportionately high levels of arsenic and uranium: 15 percent of unregulated water supplies had high levels of arsenic, and more than 12 percent had high levels of uranium.⁵⁰

Indigenous community water systems. Water contamination occurs more often in Native American water systems. Overall, tribal public water systems are twice as likely to violate health-based water quality regulations as non-tribal systems. Nearly one in eight tribal public water systems violated a health standard in 2013.⁵¹

Rural community water systems. Many small rural water systems have persistent water quality problems.⁵² Small community water systems are more likely to violate federal water quality standards, and they are associated with more disease outbreaks. Many of the systems serve economically disadvantaged communities.⁵³ For example, among small systems in Alabama’s Black Belt, “a historically underserved region whose population faces persistent economic, environmental, and health challenges,”⁵⁴ a survey found that more than a third of residents reported problems with low-pressure, and one in five reported problems with the color, taste and odor of their tap water.⁵⁵ The tap water may have made people sick. In this area, water supply interruptions and low water pressure were associated with self-reported cases of gastrointestinal illness.⁵⁶

Lacking Basic Water Infrastructure

Between about 600,000 and 1 million U.S. households lack some or all plumbing facilities.⁵⁷ More than 100,000 households lack hot running water, and 93,000 households lack flush toilets.⁵⁸

Indigenous communities. Native American communities disproportionately lack access to safe water and wastewater disposal.⁵⁹ Rural American Indian and Alaskan Native populations have the lowest rates of access to indoor plumbing in the country.⁶⁰ Between 7.5 percent and 12 percent of Native American households lack piped water systems. In the Navajo Nation, as much as 30 percent of households lack piped water service, and bacteria contaminate more than 70 percent of domestic water sources.⁶¹ Because of the lack of

water infrastructure, contamination of these water supplies poses serious risks and dangers to public health.⁶²

Failing septic systems. About 23 percent of households are not connected to sewer systems and have their own household sewage treatment systems, such as septic tanks.⁶³ Households bear the burden of maintaining and updating their septic systems, but the cost is unaffordable for many low-income rural residents.⁶⁴ Many household septic systems are failing, which can contaminate water supplies and endanger human health.⁶⁵ In Ohio, a 2013 survey found that an estimated 31 percent of household sewage systems were failing.⁶⁶ Many rural residents in central Appalachia also lack safe means of wastewater disposal.⁶⁷

In Alabama, failing septic systems have been associated with bacterial contamination of groundwater supplies.⁶⁸ A 2003 study found that 40 percent of the state's septic systems were failing or in need of repair, while bacteria contaminated 46 percent of household water wells in the state, leaving an estimated 340,000 residents with greater risks of waterborne disease.⁶⁹

Fewer than one in five households are connected to a municipal sewer system in Lowndes County, Alabama,⁷⁰ where about three-quarters of the population is Black or African American, the median annual household income is less than \$26,000, and 31 percent of people are living in poverty.⁷¹ Some households have no septic systems, and half of existing septic systems are failing or expected to fail in the future. As a result, 40 to 90 percent of households lack adequate wastewater disposal in the county.⁷² In the area, because of the heavy clay soils, a new septic system costs \$6,000 to \$30,000, which is simply unaffordable for many residents. The consequences of unaffordable wastewater disposal are grave for health, human dignity and personal freedom. The state has arrested people who could not afford to install or maintain septic systems.⁷³

Colonias. Tens of thousands of people living in more than 400 colonias along the U.S. border with Mexico lack basic water infrastructure.⁷⁴ These rural Latino communities have no good options for safe water, having unaffordable and unreliable water service or contaminated water supplies trucked into communities in plastic storage tanks.⁷⁵ There are high arsenic levels in the water sources of colonias in New Mexico.⁷⁶ In Hidalgo County, Texas more than 40 percent of households

are living in poverty, more than 7 percent of residents lack complete plumbing, and 84 percent of surveyed residents said that water service was unaffordable.⁷⁷ One in five surveyed residents believed that their tap water made someone in their home sick.⁷⁸ Only 10 percent of colonia households in Hidalgo County and El Paso County, Texas were water secure.⁷⁹

Exclusions from municipal service. Local governments sometimes decide not to annex low-income neighborhoods and communities of color, which can leave these excluded areas without municipal water and sewer services.⁸⁰ Lack of access to public infrastructure can pose risks to human health and decrease property values.⁸¹ Without access to municipal water and sewer services, there is a risk that septic systems will fail and contaminate the drinking water of household wells.⁸² There are documented cases of Black residents being structurally excluded from water and sewer services in Alabama, Illinois, Michigan, Mississippi, North Carolina and Ohio.⁸³

Invest in Water Justice

We need a major federal investment in our public water infrastructure to ensure universal access to safe and clean water. Congress must act and create a dedicated source of federal funding for our drinking water and wastewater infrastructure to repair aging systems, stop sewage backups and overflows, remove lead pipes, improve school drinking water, help households address contaminated wells and outdated septic systems, and prevent water shutoffs because of unaffordable water bills. The federal government should prioritize funding to disadvantaged communities and communities with the greatest water quality problems and affordability challenges.

The way we are funding our water infrastructure today is not sustainable or equitable. Reliance on regressive water user fees and individual responsibility for household septic tanks and wells perpetuates and exacerbates inequality and unequal access to safe and clean water. A robust federal funding program will ease this burden and can redistribute costs through a more progressive funding stream.

At the local level, in large cities, initiatives to establish percentage-of-income billing for low-income households will work together with federal support to address unaffordable water bills. In 2015, the Philadelphia City Council passed an ordinance to establish an income-based water affordability program, which is expected to greatly help prevent water shutoffs in the city.⁸⁴ An income-based billing program adjusts water bills down to the level that a household can afford to pay. The United Nations has indicated that for water service to be affordable, service charges should not consume more than 3 percent of a household's income.⁸⁵ In 2017, community efforts for income-based water affordability programs were under way in Detroit and Baltimore.

There are many actions that we need to take as a country to eliminate all economic and racial disparities in access to safe and clean water.⁸⁶ Investing in our water infrastructure is one. Without compromise, every person deserves safe and clean water. Now is the time for water justice.



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