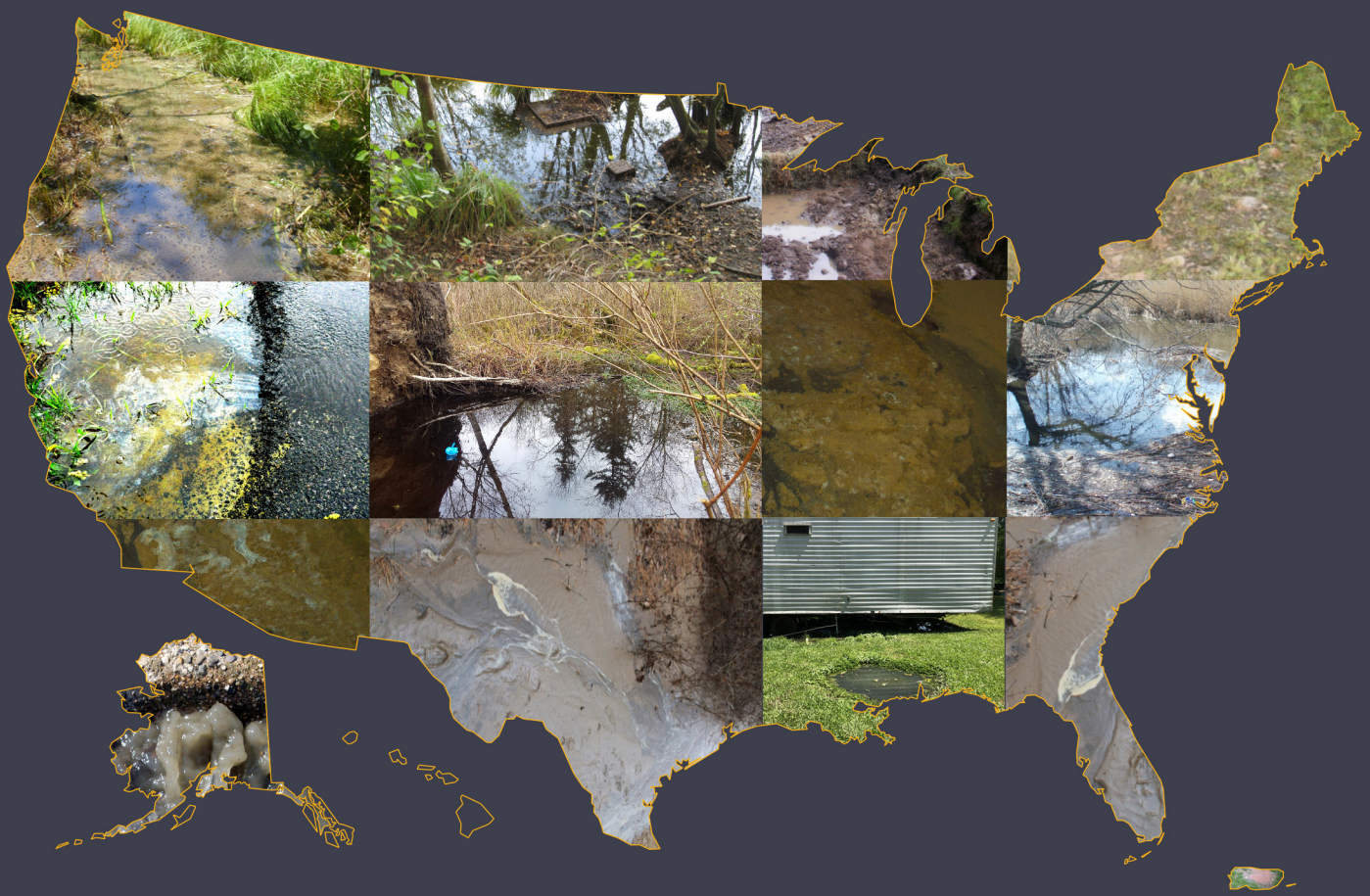
Flushed and Forgotten

Sanitation and Wastewater in Rural Communities in the United States



The Alabama Center for Rural Enterprise (ACRE)
The Columbia Law School Human Rights Clinic
The Institute for the Study of Human Rights at Columbia University

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May 2019

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Report Authors

This report is a product of a collaboration between the Alabama Center for Rural Enterprise (ACRE), the Columbia Law School Human Rights Clinic, and the Institute for the Study of Human Rights at Columbia University. The lead authors are Catherine Coleman Flowers, Founder and Director of the Alabama Center for Rural Enterprise, JoAnn Kamuf Ward, Lecturer-in-Law and Director of the Human Rights in the US Project at Columbia Law School's Human Rights Institute, and Inga Winkler, Lecturer and Director of the Program on Economic, Social and Cultural Rights at the Institute for the Study of Human Rights at Columbia University.

The Alabama Center for Rural Enterprise (ACRE)

The Alabama Center for Rural Enterprise (ACRE) is an NGO that works locally to address root causes of poverty, deepen the human rights analysis of the current situation in rural Alabama, and support efforts to frame local, national, and international advocacy in human rights terms. ACRE focuses on advancing access to water and sanitation.

The Columbia Law School Human Rights Clinic

The Columbia Law School Human Rights Clinic works to advance human rights around the world, and to train the next generation of strategic advocates for social justice. The Clinic works in partnership with civil society organizations and communities to carry out human rights investigations, legal and policy analysis, litigation, report-writing, and advocacy. This report is the product of the research, outreach, and writing of 2017-2018 Clinic students, Doreen Bentum ('18), Rachel LaFortune ('18), Kamilah Moore ('19), and Nia Morgan ('19), as well as 2018-2019 Clinic students Tessa Baizer ('20), Abbie Gotter ('19), and Lear Jiang ('19), supervised by JoAnn Kamuf Ward. Columbia Law School Human Rights Institute research assistants Isela Bañuelos ('20), Madeleine Durbin ('21), Maria Jose Martinez (LLM '19), Mary Marshall ('20), and Gina Kim (Columbia University M.A. '19) also contributed to the drafting of this report.

The Institute for the Study of Human Rights at Columbia University

The Institute for the Study of Human Rights (ISHR) at Columbia University is committed to its three core goals of providing interdisciplinary human rights education to Columbia students, fostering innovative academic research, and offering its expertise in capacity building to human rights leaders, organizations, and universities around the world. Its Program on Economic, Social and Cultural Rights seeks to ensure greater attention to and integration of these rights in current debates. ISHR research assistants Maia Berlow (Columbia College '18) and Hunter Zhao (Columbia University M.A. '20), supervised by Inga Winkler, contributed to the drafting of the report.

Methodology

This report presents a human rights analysis of inequalities in access to sanitation in the United States. It relies exclusively on published materials including academic literature, NGO reports, media, and census information. The authors consulted with a significant number of advocates and community members who shared expertise and insights, and helped identify sources of information. The section on Lowndes County, Alabama, was informed by a multiyear partnership between the authors, and the significant work of the Alabama Center for Rural Enterprise in the local community. This approach is limited in that it did not include any field research or interviews regarding the jurisdictions that are discussed. The report provides an initial nation-wide snapshot that could and should be complemented by further in-depth empirical research to gather information on the communities impacted by inadequate sanitation and develop a deeper understanding of the complexities and challenges in each jurisdiction.

Acknowledgements

We gratefully acknowledge the time and commitment residents in various communities, local advocates, and other experts spent on contributing to and reviewing this report. We would like to thank Marisol Aguilar, Elazar Barkan, Colin Bailey, Robert Bain, Kena Cador, Laurel Firestone, Stephen Gasteyer, Benjamin Hoffman, Katie Janss, Patricia Jones, Sarah Knuckey, Sabrina Kozikis, Mary Love, Nina McCoy, George McGraw, Hà Lê Phan-Warnke, Danielle Purifoy, Emma Robins, Rob Robinson, Angélica Salceda, Raina Thiele, and Omega Wilson for insightful feedback and comments. All errors and mistakes remain our own. We would also like to acknowledge the National Coalition on the Human Rights to Water and Sanitation for providing a platform for joint advocacy and connecting us to many of the Coalition's members. Special thanks to Sadie Dempsey from the Columbia University Graduate School of Architecture, Planning, and Preservation for the report cover, and to Stefan Killen for the report design.

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Executive Summary

"In Alabama, I saw various houses in rural areas that were surrounded by cesspools of sewage that flowed out of broken or non-existent septic systems. The State Health Department had no idea of how many households exist in these conditions, despite the grave health consequences. Nor did they have any plan to find out, or devise a plan to do something about it. But since the great majority of White folks live in the cities, which are well served by government built and maintained sewerage systems, and most of the rural folks in areas like Lowndes County, are Black, the problem doesn't appear on the political or governmental radar screen."

- UN Special Rapporteur on extreme poverty and human rights, Philip Alston (2017)[1]

"In Lowndes County, and many of the surrounding areas, lack of basic amenities that many Americans take for granted is a way of life. Families that have been living on property for decades can't let their kids go outside, because their front yards fill up with the waste from the toilets. Residents invest their savings in municipal and on-site sanitation systems they can barely afford, and then those systems often fail, which means that toilets and bathtubs back up and sometimes overflow into living rooms. Many families try to fix this, and resort to building straight pipes that dump human waste onto nearby property. The existing laws don't help – in fact, they are part of the problem. Through the laws, individuals are blamed and criminalized for failing systems. Yet, there is not enough investment in systems that would work. When local voices are included in developing solutions, and when equal access to effective wastewater solutions is made a priority, we can advance the right to sanitation that is essential for ensuring life with dignity for all us."

- Catherine Flowers, Founder, Alabama Center for Rural Enterprise (2018)

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Despite being one of the wealthiest countries in the world,[2] the United States of America struggles with profound poverty and inequality.[3] Often, this inequality is racialized, hitting communities of color the hardest.[4] Many rural communities lack access to jobs, tend to garner lower wages, and have shrinking populations. Rural areas also have low population density, which makes securing infrastructure like transportation, and basic services such as healthcare, challenging.[5] While the large majority of people across the United States flush and forget, many rural communities lack access to one of the most basic services: sanitation.

Sanitation is essential to everyday functions such as urination and defecation. Without a system in place to dispose of wastewater, individuals experience environmental contamination and health risks.[6] Common risks include infections such as hookworm and other tropical diseases that were thought to be eradicated in the United States. These can have serious impacts on health, including development, pregnancy, and reproductive capacity.[7] The perpetual appearance of wastewater in and around homes that occur when systems are absent or failing, takes a significant toll on mental health and the ability of individuals to live with dignity. These communities do not have the luxury to flush and forget as raw sewage backs up into their yards and homes. A lack of adequate sanitation can also perpetuate cycles of poverty and marginalization through negative impacts on health, education, and employment.

The burden for improving sanitation systems currently rests primarily on homeowners, who receive little government support. Securing sanitation can be costly, especially for individuals who lack access to central wastewater systems. Further, in some jurisdictions, failure to comply with sanitation regulations leads to fines and criminal records, in effect criminalizing poverty.[8] This criminalization compounds the challenges already faced by individuals living in poverty.

Within some areas of the United States, wastewater infrastructure is failing and inadequate.[9] Existing centralized wastewater systems are often more than a hundred years old. Other areas rely on on-site systems, for which there is limited financial support. Individual households must find and finance these individual systems.[10] In 2017, the American Society of Civil Engineers gave the United States a D+ grade for its national wastewater infrastructure.[11] Climate change, marked by more extreme rainfall in some areas and rising water levels, puts added stress on already overburdened centralized systems in these areas, as well as households responsible for individual systems across the country.[12] The negative impacts are greatest on communities already marginalized on the basis of race, ethnicity, and indigenous status, and households living in poverty – those who have long lived with decaying and absent sanitation and wastewater systems.[13]

This report seeks to bring attention to the unique plight of rural U.S. communities struggling to secure basic sanitation and wastewater. The problem of inadequate and unaffordable water services has received increasing coverage in recent years,[14] and the focus here is on bringing attention to less well-known structural challenges that impede access to sanitation, and the unique ways they impact rural residents.

Across the United States, urban communities also face significant challenges with regard to accessing sanitation, including affordability. Homeless individuals are particularly impacted by policies that ignore the basic need to urinate and defecate and criminalize these behaviors, with significant implications for the enjoyment of human rights, which have been addressed elsewhere.[15] Homes in rural communities are more likely to lack access to sanitation when compared with urban dwellings, a trend that has been consistent over decades.[16] Therefore, this report focuses specifically on the impact of sanitation and wastewater policy in rural, remote, and dispersed residential communities across the United States.

While the impacts of lack of access to sanitation are severe, there is insufficient demographic data on who has access to sanitation in the United States, and who is denied this basic right, nationally and locally. National census data on sanitation has not been collected since 1990.[17] While existing data is limited, what is available suggests that lack of access to sanitation is a national problem that primarily affects

> While the large majority of people across the United States flush and forget, many rural communities lack access to one of the most basic services: sanitation.

communities that are already marginalized on the basis of race, ethnicity, and national origin, and socio-economic status.[18]

The report offers an overview of the scope of the problem of lack of access to basic sanitation, highlighting the experience of rural communities in Alabama, Alaska, California, Kentucky, Louisiana, Michigan, Mississippi, the Navajo Nation, North Carolina, Ohio, Tennessee, Texas, Virginia, West Virginia, and Puerto Rico, demonstrating that neglect and disregard for basic sanitation is a nation-wide problem. While the dire situation that some communities in Alabama face is receiving increasing attention,[19] the neglect and disregard of basic sanitation needs spans the country. 'America's dirty secret' is not limited to Lowndes County.

The forgotten and excluded communities discussed in this report demonstrate how current law and policy regarding sanitation – largely marked by neglect and disinvestment – perpetuate discrimination and inequality, with dire consequences for individuals, households, and communities.

The reality in the United States stands in stark contrast to global human rights standards, which require that sanitation be safe, acceptable, affordable, accessible, and available without discrimination.[20] In order to foster transparency and accountability, human rights standards require access to information, including disaggregated data on access to sanitation,[21] and participation of the communities concerned in decisions that concern their lives.

This report fills a significant gap by situating the lack of access to sanitation in rural communities in the United States within a human rights framework. The human rights framework focuses on examining and eliminating the underlying structural causes of inadequate sanitation and wastewater failures. While soil conditions, geography, and infrastructure play an obvious role in shaping access to sanitation in communities, the most significant underlying factor is political choice. Over decades, political choices have resulted in the marginalization and exclusion of rural communities of color across the United States. Addressing sanitation challenges through the lens of human rights requires a shift in decision-making to prioritize safety, accessibility, and affordability for the communities most in need.

The human rights framework, grounded in the principles of non-discrimination and equality, participation, and accountability can support equitable and sustainable solutions to sanitation:

- First, human rights standards provide guidance to ensure that laws, policies, and practices ensure that sanitation is appropriate, affordable, and accessible, as well as safe, hygienic, and secure.

- Second, human rights stress equality and non-discrimination. They require that the needs of marginalized and disadvantaged communities are addressed as a matter of priority in order to mitigate inequalities that result from discrimination or neglect.
- Third, human rights require that communities have a voice in framing, deliberating, and determining how to address persistent challenges, rather than leaving decision-making to external, technical experts.
- Fourth, human rights require that government institutions are accountable and foster and support community access to adequate sanitation services that enable residents to live healthy lives, rather than placing the burden on individuals and communities to secure sanitation and blaming and criminalizing individuals for failure to comply with onerous rules and regulations. This stands in stark contrast to current approaches that place the burden of costly sanitation and wastewater solutions on those most in need, who are the least able to afford them.

These human rights principles, detailed in Part IV of this report, have implications for law and policy, financing, service provision, and data collection as spelled out in the recommendations below. Operationalizing these principles is a vital pathway towards improving the lives of individuals who are denied basic rights and services despite the United States' vast wealth.

Recommendations: Key Components of Law and Policy to Ensure Access to Sanitation in Rural Communities

Human rights standards provide valuable guidance for decision-makers in the United States to develop durable and effective laws and policies that ensure access to sanitation on the basis of equality.

In the United States, federal, state, tribal, and local governments share responsibility for monitoring and implementing human rights.[22] The United States has affirmed that state and local governments play a role in fostering human rights compliance, consistent with U.S. federalism.[23] Each level of government has a range of tools at its disposal to identify causes of discrimination, eliminate laws and policies that perpetuate discrimination, and foster equal enjoyment of the right to sanitation. The critical role that local governments play in fulfilling the right to sanitation has been affirmed by United Nations (UN) experts on water and sanitation,[24] as well as through the Sustainable Development Goals.[25]

By taking the following steps, federal, state, tribal, and local law authorities can facilitate access to adequate sanitation and improve the ability of rural residents to live a healthy life with dignity:

Recognize the Problem

- Publicly recognize that the lack of access to adequate sanitation is a problem that impacts communities across the country and requires national, state, tribal, and local government action and collaboration to ensure solutions that can be tailored to local conditions and contexts.

Stop Criminalization

- Eliminate laws, policies, and practices that criminalize residents for failure to comply with sanitation regulations when cost and/or lack of ability to attain or install functioning wastewater systems are the barrier to compliance.
    - Federal authorities should incentivize the revocation of laws that have the intent or effect of penalizing individuals for a failure to install systems or afford maintenance. Incentives can include funding conditions for government grants or programs, and other appropriate means of support.

- State, tribal, and local authorities should repeal laws that have the intent or effect of penalizing individuals for a failure to install systems they are unable to afford and expunge criminal records of individuals prosecuted for failure to install systems or afford maintenance.

Ensure Access on the Basis of Equality

- Take steps to ensure sanitation for all households that is adequate and affordable on an equal basis regardless of race, ethnicity, socio-economic status, geographic location, and other characteristics. To this end:
- Federal authorities should:
  - Develop a national standard for the cost of sanitation systems and services to ensure that these costs are affordable for all and work with state and local authorities to ensure it is met. Such an affordability standard may be flexible to address different local geographic and economic contexts.
  - Prioritize allocation of resources to marginalized individuals and communities to alleviate the burden on homeowners.
  - Support research on context-specific sanitation and wastewater solutions that benefit, and are available to, small-scale providers and individual households while ensuring that administrative requirements do not put an undue burden on small communities or individuals.
- State, tribal, and local authorities should:
  - Prioritize effective, locally appropriate sanitation systems.
  - Ensure that unincorporated areas are served on the basis of equality with incorporated areas.
  - Eliminate onerous permitting and siting regulations to streamline requirements and foster cost effective processes for individuals living in poverty to allow for context-specific sanitation and wastewater solutions.

Ensure Participation

- Ensure the meaningful participation of rurally-based individuals and communities most impacted by lack of access to sanitation in the elaboration and implementation of sanitation laws, policies, and programs.
- Participation should ensure that planning and decision-making related to sanitation infrastructure and services reflect the expertise and needs of these residents, and lead to context-specific solutions that appropriately meet communities' needs with regard to soil conditions, population density, socio-cultural norms and community preferences, among other factors.

Improve Accountability

- Collect data and report publicly on access to sanitation services and on the impacts of current sanitation law and policy.
  - Federal, state, tribal, and local authorities should work together to ensure regular, periodic, and systematic collection and dissemination of accurate data on access to sanitation systems

and services, disaggregated by race, ethnicity, socio-economic status, geographic location (including rural vs. urban areas), and other relevant factors**,** potentially through over-sampling of certain population groups or targeted surveys of specific population groups or low-income areas.

  - Monitoring should continually assess the functionality of existing systems; evaluate whether law, policies, and programs effectively promote the right to sanitation on the basis of equality, including in rural areas; and be used to facilitate necessary adjustments.
  - Monitoring should be participatory and should engage community organizations and households in the collection and dissemination of qualitative and quantitative data on access to sanitation infrastructure, existing challenges, and appropriate solutions.
- Monitor the allocation and distribution of resources
  - Evaluate how the distribution of federal funds can perpetuate unequal access to sanitation on the basis of race or other identity, socio-economic status, and geography (urban vs. rural households), including by tracking and assessing where funds are allocated in comparison to needs.
  - Introduce monitoring to ensure that resources support effective sanitation solutions in accordance with local needs and environments and make this information easily accessible to the public.
- Publish easily accessible information about which state, tribal, and local level officials are responsible for permitting, regulation, installation, and maintenance of on-site systems and municipal systems and ensure coherence and coordination between different agencies.

The human rights framework focuses on examining and eliminating the underlying structural causes of inadequate sanitation and wastewater failures. While soil conditions, geography, and infrastructure play an obvious role in shaping access to sanitation in communities, the most significant underlying factor is political choice.

Flushed and Forgotten: Sanitation and Wastewater in Rural Communities in the United States

Communities across the United States lack basic sanitation and wastewater systems and services that are affordable and accessible. Race, ethnicity, socio-economic status, and geography influence whether individuals can urinate and defecate with dignity or if these basic bodily functions are a cause of stress. In rural U.S. communities with majority Black, indigenous, or Latinx populations, and where poverty is prevalent, functioning and affordable sanitation systems can be out of reach. In these communities, existing law and policy place the burden of costly sanitation and wastewater solutions on those most in need, who are often least able to afford them. Failing and inadequate infrastructure reflect the fact that all too often these communities are forgotten, if not deliberately excluded from decision-making. Marginalization and neglect are ongoing, compounded by the negative impacts of criminalization of poverty.

A wealthy country such as the United States has the means to address this sanitation and wastewater crisis. Against this background, this report seeks to turn attention to those who cannot flush and forget, and to provide recommendations for change.

This report provides an overview of the problem of unequal and inadequate access to sanitation nationally, and provides solutions grounded in the human right to sanitation. Part I provides the overall context of sanitation and wastewater in the United States, providing an overview of sanitation systems, distilling the domestic legal framework, presenting relevant sources of government funding, and assessing current data collection efforts. Part II sketches a picture of ailing, inadequate, and in some places, non-existent infrastructure within rural communities in the United States. Part III presents an in-depth case study of Lowndes County, Alabama, which illustrates how federal, state, and local law and practice intersect to perpetuate discrimination, marginalization, and exclusion. Part IV distills applicable human rights standards, which provide guidance for improving existing law and policy in order to ensure equal access to sanitation for rural communities across the United States.

I. SANITATION AND WASTEWATER: SYSTEMS, LAWS, INSTITUTIONS, FINANCING, AND DATA

Sanitation is a complex issue, handled in a decentralized way across the United States. While many cities have municipal systems, in particular in rural areas, many households rely (or are expected to rely) on on-site sanitation system. Challenges abound with all types of systems.

The legal framework, relevant policies, and local practices lack uniformity. Two main federal laws touch upon sanitation: The Clean Water Act and the Safe Drinking Water Act.[26] However, for the most part, sanitation is governed by state and tribal laws, implemented by a mix of state, tribal, and local agencies. County and municipal laws also address sanitation in many states. Wastewater and sanitation funding is diffuse, further complicating the decision-making landscape. Most funding for sanitation management comes from federal agencies, but is disbursed by states to local entities. In most instances, funding supports municipal and other large systems. Community entities, non-profits, and individual homeowners in impacted communities, who often understand local needs best, are often ineligible for federal funding.[27] As a result, rural communities have often failed to secure funding required to meet sanitation needs.

Data on who has access to sanitation is largely unavailable. Some information is available on particular states or regions, but comprehensive national data has not been collected in several decades. Nevertheless, it is possible to illustrate barriers to sanitation access and to identify some trends, including a disparate impact on communities comprised of African American, Latinx, Native American and Indigenous populations, and people living in poverty.

This remainder of this Part provides an overview of the most prevalent sanitation systems in rural communities; introduces federal laws and select local laws; highlights the main sources of available funding; and concludes with a discussion of data collection practices regarding sanitation access. This information sets the stage for the state-specific examples of inadequate sanitation discussed in Part II and the case study on Lowndes County in Part III.

1. Overview of Sanitation Systems

Basic indoor plumbing remains a concern throughout the United States. Recent data indicates that an estimated 540,000 U.S. households (which translates to 1.4 to 1.7 million people) lacked complete plumbing in 2012, defined as missing a toilet, tub, shower, or running water.[28] While this data does not distinguish between water and wastewater services, our report focuses specifically on housing that lacks the infrastructure necessary to effectively handle feces and wastewater.

Approximately four out of five U.S. households with sanitation and wastewater services are connected to a municipal system, where sewer lines are provided and maintained by local governments. Conversely, about one in five households relies on individualized wastewater disposal methods.[29] Individual methods include on-site sewage systems, such as septic tanks, which are installed on individual properties and maintained at the cost of the homeowner.[30] The government's role for on-site solutions is largely limited to developing compliance standards and regulations for individual homeowners, and some limited government funding exists for such systems, as discussed below. Individuals who do not have the means to install on-site systems often resort to straight-piping, constructing makeshift pipes or channels to direct waste from homes and into yards.[31] In contrast to municipal and on-site systems, straight-piping does not contain wastewater, creating health risks for those who come in contact with feces and raw sewage that accumulate in yards and ditches at the end of a straight pipe.[32] Straight-piping does not comply with most state sanitation laws, and homeowners with straight pipes may be subject to fines, and face civil or criminal charges.[33]

From the perspective of human rights there is no preference for one technical solution over the other; both centralized and decentralized systems can meet human rights standards and systems should be appropriate for the local context.[34] In fact, decentralized systems may have significant advantages in contexts with low population density,[35] and concerns have been raised about the flush-and-forget mentality inherent in sewered systems that results in the contamination of large amounts of fresh water.[36]

While different technical solutions may meet human rights requirements, challenges and disparities arise because governments provide centralized systems while support for households relying on on-site systems is limited. In practice flaws and challenges arise with each type of sanitation system, contributing to the lack of adequate sanitation in rural U.S. communities. Even where municipal infrastructure does exist, it is often old and failing.[37] The Environmental Protection Agency already highlighted this problem more than two decades ago:

> One area of concern is failing or obsolete wastewater systems in less densely populated areas. When these systems were first built, common practice was to install the least costly solution, which was not necessarily the most appropriate solution for the conditions...Both centralized and decentralized system alternatives need to be considered in upgrading failing systems to provide the most appropriate and cost-effective solution to wastewater treatment problems.[38]

Despite longstanding recognition by experts of the systemic challenges rural communities face in accessing adequate sanitation, the United States legal and regulatory framework has failed to address them. The following section describes the legal framework that regulates sanitation at the federal and state levels.

2. Domestic Legal and Institutional Framework for Sanitation and Wastewater

Sanitation is largely a state and local issue in the United States.[39] The United States federal government offers little guidance on sanitation systems. Two federal laws address sanitation and set minimum sanitation standards, both with the aim of preventing pollution and environmental harm.[40] State laws constitute the primary means of regulating sanitation, and these laws are implemented and enforced by state, county, and municipal agencies.[41]

a. Federal Laws and Institutions

There are only two federal laws that primarily focus on water and have implications for sanitation. The Safe Drinking Water Act and the Clean Water Act regulate water quality and, to some extent, sanitation. The Safe Drinking Water Act focuses on ensuring water quality in public water systems and does not address sanitation directly.[42] The Clean Water Act regulates discharge of sewage and pollutants, with the aim of eradicating pollution of U.S. waterways.[43] These national laws are designed to provide minimum standards for the purpose of ensuring water quality.[44] State, tribal, and local authorities can enact laws to complement these protections, but cannot establish lesser standards. Where subnational authorities do not enact complementary laws, implementation is left to the federal Environmental Protection Agency.

b. State, Tribal, and Local Laws and Institutions

A patchwork of state, tribal, and municipal laws, policies, regulations, and practices govern sanitation access. While the complex array of regulations that govern sanitation are outside the scope of this report, a basic explanation of state, tribal, and local laws helps to situate the discussion of challenges and proposed solutions.

Sanitation and wastewater laws vary by region, state, indigenous territory and municipality.[45] The limits of existing state sanitation laws are well-known. First, state laws are inconsistent, and many do not adequately address on-site systems. Over two decades ago, the EPA noted that state legislation "may be absent, vague, or not clearly applicable to decentralized systems."[46] Even when they are clear, state laws often lack the flexibility necessary to support the systems that are appropriate for certain communities and conditions.[47] Second, state laws hinder government accountability and transparency. As the EPA has highlighted: "in almost all states, legislative authority… is split between at least two state agencies," as well as between state and local authorities.[48] Homeowners may not know where to turn when they need assistance, and it is often hard to know which agencies make decisions regarding particular sanitation policies or practices.

In general, state sewer codes regulate the use of public sewers and fees for municipal sewer connections. Typically, residents are required to use public systems where such systems are available.[49] Individuals using on-site systems must follow specific state regulations, including on permitting and inspection, fees, and oversight authority.[50] State laws also determine penalties for failure to comply with sanitation requirements, often stipulating that such failures are a misdemeanor, accompanied by fines.[51] It is typical for fines to accrue daily,[52] placing a significant burden on individuals living in poverty. While most laws provide for civil penalties, a number of jurisdictions also impose criminal penalties, including possible imprisonment.[53] In some jurisdictions, the punitive approach reflects an effort to eliminate straight-piping and improve water quality.[54] However, as described in Part III on Lowndes County, penalties often perpetuate cycles of poverty and the potential that such penalties could be imposed fuels mistrust in government.

Within disadvantaged rural communities across the United States, unincorporated areas often face even greater challenges in accessing sanitation because they lack formal self-governing status, such as a municipal charter.[55] As a result, unincorporated communities are often subject to decisions made at the county level, with no locally elected representatives to advocate for their interests.[56] Unincorporated communities thus must often rely on counties to provide sanitation infrastructure and services, which counties often fail to do[57] because of a lack of political representation, limited political will, scarce resources, and legal impediments.[58]

A number of studies have linked the lack of services and infrastructure in unincorporated rural communities to racial discrimination.[59] Patterns of intentional racial and ethnic exclusion and lack of representation constrain the ability of communities to engage in decision-making or participate politically to advance solutions that reflect their needs.[60] To address these challenges, federal, state, and local law and policy must take into account the unique characteristics of rural populations living in unincorporated areas.

3. Government Financing

Government funding for sanitation infrastructure comes almost exclusively from federal agencies, and flows through state entities to reach local communities. The largest source of federal wastewater funding, the Environmental Protection Agency (EPA) Clean Water State Revolving Fund (State Revolving Fund), provides loan funds that are managed at the state level and go primarily to public bodies for municipal systems.[61] Other funding comes from the US Department of Agriculture,[62] the US Department of Housing and Urban Development,[63] and the Indian Health Service.[64] Structurally, individual states play a large role in determining how to fund wastewater management, even when the funding sources are federal.[65]

Overall, available funding is inadequate to meet sanitation infrastructure needs, particularly for rural communities and those living outside of municipalities. UN experts on water and sanitation have stressed that pre-requisites to funding, such as existing staff and financial capacity, as well as approval processes are significant barriers for marginalized communities of color, where governments are more likely to be under-resourced and where residents are often the most in need.[66] Challenges arise particularly for individuals relying on on-site sanitation systems, small rural communities, and indigenous communities.

Federal funding for sanitation is principally earmarked for municipalities, tribes, organizations, or other public bodies, rather than individual households[67] – even in circumstances where individual households bear the primary responsibility for on-site sanitation systems. Where federal funding for individual households

exists, it is often difficult to access, as a result of onerous crediting and approval requirements.[68] As a result, individual households in rural communities remain largely responsible for their sanitation systems.

The majority of federal funding that is available for local authorities is not designed to reach small rural communities. For example, the EPA's Clean Water State Revolving Fund is generally targeted at municipalities.[69] Some limited funding is available to support small, decentralized wastewater systems.[70] Additionally, some Environmental Protection Agency (EPA) and U.S. Department of Agriculture programs are earmarked for specific communities in the United States, such as tribal and border communities.[71]

In practice, existing federal funding is often elusive for rural government authorities, which face a range of capacity challenges, including the following:

- Limited staffing makes it difficult to secure and manage loans and grants.
- The costs of planning and reviewing funding applications can be out of reach for rural communities.[72]
- Loan programs often require governments to demonstrate the ability to repay funds upfront, which smaller towns and municipalities with limited budgets may be unable to do.[73]
- Competitive grants often require applicants to demonstrate cost efficiencies, which is often difficult in sparsely populated areas.[74]

These challenges are coupled with the fact that rural communities with high levels of poverty have a limited tax base to draw from and therefore lack the financial capacity to invest in sanitation solutions.[75]

On tribal lands, there are further impediments to securing funds to address ailing or absent wastewater and sanitation systems. Groundbreaking federal environmental laws in the 1970s and 1980 did not mention Native American lands until amended in the mid-1980s. As a result, tribal reservations were not initially eligible for federal water and sewage infrastructure funding.[76] Today, while there are potential sources of federal funding, economic barriers persist – the low population density on reservations makes building water and sanitation infrastructure prohibitively expensive.[77] The Indian Health Service (IHS) has estimated that to provide clean drinking water and basic sanitation to all Navajo Nation residents would cost $200 million.[78] Multiple authorities are often involved in providing sanitation funds, adding to the complexity that small communities and individuals face.[79] The EPA, USDA, IHS, and Departments of Commerce, Interior, and Housing and Urban Development all have discrete programs that could provide funding for specific water and wastewater projects in indigenous territories.[80] Some funding sources involve the work of multiple agencies, such as the Clean Water Act Tribal Set Aside Program (CWISA) offered by the EPA.[81] In 2018, the CWISA program funded 59 projects for over $33 million dollars in total,[82] but there are limitations on what can be funded. Additionally, applicants have to meet significant requirements to establish eligibility for funding, including detailed costs estimates, risk assessments, and local pre-approvals.[83]

A factor that impacts all individuals and communities seeking to improve sanitation systems is that federal funding sources for public sanitation systems and individual infrastructure improvement are constantly subject to change and further decrease as a result of shifts in policy, or executive leadership.[84] However, there are efforts to adopt legislation to increase sanitation funding for rural communities. In 2018, legislators introduced bipartisan bills in the House and the Senate that would provide funding for individual decentralized wastewater systems at the household level.[85] Senator Cory Booker, who co-sponsored the

Senate bills, has visited Lowndes County and noted that: "Many communities across the country are facing environmental and public health threats that for too long have gone unaddressed, seemingly only noticeable to those who deal with the effects on a daily basis. These communities are often communities of color or indigenous communities, and they tend to be low-income. This is unacceptable […]."[86] Alabama Representative Terri Sewell who sponsored the bipartisan House bill that would provide funding for non-profit entities to improve and build individual wastewater systems for low income individuals further underscored that "the unaffordability of proper wastewater systems in rural America is one of the most overlooked environmental injustices of our time."[87] Another co-sponsor, Representative Mike Rogers, emphasized that "[a]ccess to working wastewater systems is a bipartisan issue. Rural America can't be left behind, and this legislation ensures that folks in our districts and across America have a way forward from failing wastewater infrastructure."[88]

At present, the legal framework and available financing are not adequate to address the sanitation challenges facing people across the country. There is no federal minimum standard or even guidance for what constitutes adequate, accessible, or affordable sanitation.

4. Data Collection and Disaggregation

Until 1990, the U.S. Census Bureau collected official data on sewage disposal systems in all states, distinguishing between public sewer, septic tank or cesspool, and other means.[89] The historic data was broken down by race, ethnicity, rural vs. urban areas, and county. This afforded the government and the public the ability to identify disparities in access to sanitation on the basis of race, and to compare access in rural and urban communities, as well as across states.[90] For 1990, the data indicates that 3.9% of Black households in Alabama lacked complete plumbing,[91] compared to 0.7% of White households. The disparities were even starker in rural areas of the state, where 11.1% of Black households lacked complete plumbing, compared to 1.2% of White households. In Lowndes County, the disparity was even more striking: 10.5 % of Black households lacked full plumbing while only 0.4% of White households did.[92] After 1990, this data collection was discontinued.

Data on plumbing, water and sewage disposal is currently collected in a less comprehensive way through the American Housing Survey (AHS).[93] The AHS produces nationally representative data, as well as data for some metropolitan areas and a select number of states. The 2015 version of the survey includes data on the type of wastewater system in a household (*i.e.,* public, sewage), and adds a new category for households that have "none."[94] For 2015, 199,000 households were reported as having no wastewater system.[95]

AHS data can be disaggregated by race, ethnicity, and other socio-economic stratifiers. However, the sample sizes are too small, and the margin of error is too high to draw reliable conclusions. Still, the data seems to indicate that the share of Black and "Hispanic" households without sewage systems is disproportionately high. The AHS also allows data to be filtered by rural areas. However, it does not present any data on sewage systems in rural areas, indicating the sample size does not produce sufficiently reliable data.[96]

In addition to the AHS, the American Community Survey (ACS) collects data on access to complete plumbing facilities.[97] A 2016 county-level analysis of ACS data found that individuals in communities

made up of a majority of residents of color are more likely to report a lack of access to complete plumbing facilities.[98] The analysis also showed that households in rural areas are much more likely to lack complete plumbing than their urban counterparts, a trend that has been consistent over decades.[99]

Some administrative data also exists. For example, the Safe Water Act requires states to report on water quality compliance.[100] However, the available data focuses on water quality, not directly on the adequacy of wastewater disposal. Moreover, the datasets are difficult to locate and to disaggregate, making racial, ethnic, and socio-economic comparisons challenging.[101]

Overall, the available data on types of sanitation systems used by households allows for very limited disaggregation and fails to enable robust monitoring for marginalized groups. However, the data that exists indicates that significant disparities in access to sanitation exist and warrant more detailed data collection, disaggregation, and analysis. Data reliability must be improved, potentially through over-sampling of certain population groups or targeted surveys of specific population groups or low-income areas. More robust data must be collected for rural areas, and disaggregated by race, ethnicity, socio-economic status, homelessness, and geographic location, including incorporated and unincorporated areas. Data should further be disaggregated by age, disability status, and sex in order to capture intersectional inequalities. Only then will be able to fully understand who is impacted the most by the lack of sanitation.

II. SNAPSHOTS OF DISPARITIES: IMPACTED COMMUNITIES ACROSS THE UNITED STATES

Inadequate sanitation and failing infrastructure are deeply-rooted problems that exist across the United States, a country generally perceived as providing near universal access to clean water and sanitation.[102] While sanitation is a highly technical issue, with a complex regulatory framework, the impacts of inadequate sanitation are profoundly personal, and can destabilize families and communities. This Part highlights how inadequate and unaffordable sanitation affects communities in Alabama, Alaska, California, Kentucky, Louisiana, Michigan, Mississippi, the Navajo Nation, North Carolina, Ohio, Tennessee, Texas, Virginia, West Virginia, and Puerto Rico. This section demonstrates the breadth of the problem, sharing examples from across the country. While it does not provide a comprehensive overview of all challenges related to sanitation across the country and further research would likely unearth even greater prevalence of disparities in access, this report is the first to compile such information on a nation-wide scale. The following section explores the depth of the problem, focusing on Lowndes County, Alabama, as a case study of the ways that law, policy, and practice intersect to harm community health and dignity, damage economic stability, and erode trust in government.

Inadequate and failing sanitation systems disproportionately impact rural areas and communities of color. The following discussion of U.S. jurisdictions that lack access to sanitation demonstrates patterns of neglect—if not deliberate exclusion—on the basis of race, ethnicity, and indigenous status. In many instances, existing challenges are exacerbated on the basis of gender, disability and/or age, for instance for women of color, single-headed households, or older community members as a result of relative household incomes and head of household responsibilities, among other factors.[103]

1. Alabama: Wilcox County and Perry County

Approximately 70% of Wilcox County, Alabama, is Black.[104] The County faces a sanitation crisis linked to poverty and the environment. One 2016 study indicates that approximately 90% of residents have unpermitted sewage systems, overwhelmingly comprised of straight pipes.[105] Decades of failing septic systems and the use of straight-piping have led to the persistence of hookworm in Wilcox.[106] It is estimated that 550,000 gallons of raw sewage from Wilcox County enters the Alabama River watershed every day.[107]

The case of nearby Uniontown, Alabama, demonstrates how flawed wastewater disposal solutions can exacerbate structural sanitation problems, and harm communities rather than support them. Uniontown, where the population is 86.3% Black,[108] has long relied on spray fields, where sewage is pumped into a designated field where it is meant to be absorbed into the ground.[109] The spray fields lack the capacity to handle all Uniontown's waste. As a result, wastewater has reportedly leaked into nearby creeks and rivers for over a decade.[110] The city received over $4 million in USDA Rural Development program funds to make improvements to the town's wastewater treatment plant.[111] However, the Alabama Department of Environmental Management highlighted that, although "[s]ubstantial funds from a USDA grant and loan were expended on the treatment plant . . . the collection system was not materially refurbished and is in such a state of disrepair that storm water inflows completely overwhelm the treatment plant as well as the undersized spray field."[112] Long-time residents and advocates fought against the efforts to expand the existing system and called for alternative solutions, but a second spray field was built.[113] According to reports, the second spray field is currently abandoned and unusable, because, just like the old spray field, the soil under the newly built spray field does not absorb water.[114] Reportedly, a larger USDA grant is now being considered that would connect the city to a wastewater treatment plant.[115]

2. Alaska

According to the Indian Health Service, in 2013, approximately 7.5% of Native American and Alaska Native homes did not have safe drinking water or basic sanitation,[116] which has been linked to disproportionately higher rates of skin infections and respiratory illnesses.[117] It is estimated that in 2017, 42 communities and more than 3,000 Native American households in rural Alaska lacked access to sanitation infrastructure and clean water.[118] For example, the Alaskan Native village of Kivalina has no septic system and residents must remove their waste into pots multiple times a day.[119] Difficult soils and permafrost add to the costs and challenges of finding adequate sanitation solutions for Alaskan communities.[120] In addition to addressing unique climate conditions, any enhancements to wastewater and sanitation infrastructure in rural Alaska incur steep costs related to procurement, labor, and shipping.

3. Appalachia: Kentucky, Tennessee, Virginia, West Virginia

In rural communities in central Appalachia, which includes parts of Tennessee, Virginia, West Virginia, and Kentucky, the soils create challenges to simple on-site wastewater treatment.[121] According to a recent study, approximately three percent of the region lacks complete plumbing, and some counties have a much higher figure.[122] Alternative wastewater treatment options are a financial burden on already low-income communities.[123] In areas where municipal sanitation or on-site septic systems are not accessible, many people reportedly use straight pipes to channel their waste into local surface waters, which deteriorates water quality.[124] This inadequate sanitation has been linked to high rates of diseases[125] and harmful

bacteria such as *Bacteroides and E. coli* grow, creating a public health hazard.[126] State surveys from Kentucky suggest that sewage pollution in the eastern part of the state is as much of a concern as water contamination from coal mining.[127]

4. California

Within disadvantaged unincorporated communities in California—low-income communities located outside city boundaries—especially those located along the U.S.-Mexican border, the lack of access to sanitation has been identified as a widespread problem, resulting from residual segregation, diminished voting power, and unregulated housing subdivisions.[128]

Majority Latinx and African American communities in unincorporated areas of California's Central Valley have experienced decades of structural neglect and lack of investment in infrastructure, which results in lack of access to safe water and sanitation for residents.[129] Allensworth, a historically Black town and the first African American city established west of the Mississippi offers one example.[130] Water sources have been found to be contaminated and unsafe to drink, forcing residents to spend as much as 10% of their household incomes on bottled water for daily use.[131] The lack of essential services such as water and sanitation not only bears heavily on residents, it contributes to depreciating home values, making it nearly impossible for residents to sell their homes and relocate to other communities.[132]

Sanitation access problems in California are not limited to the Central Valley. The Shady Lane Mobile Home Park, located on the outskirts of the unincorporated community of Thermal in Riverside County, also demonstrates the challenges associated with reliance on inadequate septic systems. Residents, who are 99.9% Latinx, continually face serious health risks when their systems fail and wastewater backs up into plumbing fixtures.[133] Other mobile home communities in California face similar problems.[134]

To improve access, community leaders, advocates, and policymakers in California have worked for legislative change and increased resources to expand vital infrastructure. Following years of advocacy by the Safe Water Alliance, Assembly Bill No. 685—the "Human Right to Water Bill"—was signed into California state law in 2012. As a result, California became the first state in the nation to recognize the human right to water, including for "sanitary purposes."[135] While the law does not require California to provide water, it establishes that "[a]ll relevant state agencies… shall consider this state policy when revising, adopting, or establishing policies, regulations, and grant criteria…."[136] AB 685 serves as a roadmap for state agencies addressing water and sanitation challenges and reflects California's longstanding commitment to universal access.[137]

Building on the foundation of AB 685, lobbying, litigation, and awareness-raising campaigns have helped to direct public funding toward improvement of water and sewer infrastructure. Around the same time, the California State Senate passed Senate Bill 244, which requires cities and counties to recognize disadvantaged unincorporated communities, and to include present and future infrastructure needs of these communities in planning.[138] The bill acknowledges that "many of these communities lack basic infrastructure, including … adequate sewer service." As a result, cities and counties must amend their action plans to specifically address how their efforts relate to unincorporated communities.

More recently, in 2018, the California state legislature passed SB 1215, authorizing the State Water Resource Control Board to order a special district, city, or county to provide sewer service to a disadvantaged

community.[139] It also creates a process for members of disadvantaged communities to petition for such service, and requires that state legislature to make funds available for the provision of sewer service.

At the local level, litigation has sought to address disparities in access to sanitation. In the city of Modesto (within Stanislaus County), many predominantly Latinx neighborhoods lack basic wastewater disposal systems.[140] These neighborhoods remained unincorporated despite being completely surrounded by the city proper. White neighborhoods, in contrast, were regularly annexed and thus included in residential development projects.[141] In 2004, a coalition of residents and community organizations sued the city and county, challenging discrimination in the provision of municipal services in several predominantly Latinx neighborhoods, with a focus on the lack of adequate wastewater systems, among other basic services.[142] A California Court of Appeals found that residents had valid discrimination claims under the Fair Housing Act.[143] In the resulting 2011 settlement agreement, Stanislaus County committed to support future annexation of the plaintiffs' neighborhoods, as well as the construction of a new sewer system.[144] Beginning in 2013, the County installed the first sewer lines to connect the sewer service of Modesto with neighborhood lines in Parklawn, which was paid for with state grants.[145] The County is now looking into connecting additional unincorporated neighborhoods in west Modesto.[146]

Progress in Modesto has been facilitated by two factors. First, residents and community organizations engaged in coalition building and highlighted the right "to be treated with equal dignity and to have the benefit of the services that many of us take for granted."[147] Second, residents actively worked alongside the City and County to ensure the implementation of the settlement.

5. Louisiana: Concordia Parish and St. Tammany Parish

The City of Ferriday, in Concordia Parish in Louisiana, is over 80% African American,[148] and reports one of the highest premature death rates and lowest health outcomes in the United States.[149] Ferriday has experienced ongoing neglect and disrepair of sewage treatment plants, resulting in reports of raw sewage pooling on residential property.[150] A 2016 EPA inspection revealed that oxidation ponds were not in operation for over a year, as one element of the failing wastewater treatment systems.[151] The combination of inadequate sewer lines and drainage and poor maintenance, has also resulted in the overflow of raw sewage in other cities within Concordia Parish, where there are reports that "everyday rain" triggers regular sewage floods into public streets.[152]

In 2016, St. Tammany Parish experienced a severe sewage spill. According to the Louisiana Department of Health, over six million gallons of stormwater-diluted sewage poured into the Bogue Chitto River.[153] Responding to the severity of sewage overflows into homes, neighborhoods, and the local environment across the state, Louisiana legislators formed the Sanitary Sewer System Overflows Commission, to determine how to prevent future spills.[154] The Commission includes representatives from the local municipal government, the state legislature, and civil society.[155] The Commission is tasked with developing bipartisan legislation to address sewage overflows, and has collected input from sewage system experts and the general public.

6. Michigan: Barry and Eaton Counties

Michigan is the only U.S. state that does not have a uniform septic code.[156] Officials have estimated that 10% of the state's 1.3 million on-site systems have failed or pollute the environment.[157] In the rural

Barry and Eaton Counties, which have White majority populations, there are reportedly 1,000 failed septic systems and at least 300 homes without septic systems.[158] As a result, sewage runs to the nearest lakes, streams, and waterways.[159]

7. Mississippi: Greenville and "Sugar Ditch," Tunica

In 2016, the US Environmental Protection Agency filed a lawsuit against Greenville, Mississippi, for hundreds of unreported violations of the Clean Water Act.[160] Reportedly, the city failed to properly oversee, maintain, and operate its sewer system, resulting in the constant spill of raw sewage into local waters before it could reach a wastewater treatment plant.[161] While cities are required to report all sanitary sewage overflows to the EPA's Department of Environmental Quality, Greenville only reported a small fraction.[162] Greenville is approximately 80% African American, and over one-third of the population lives below the poverty line.[163]

The inadequate sewage systems in the black "Sugar Ditch" neighborhood in 1980 led to challenges quite similar to those facing rural communities today. With approximately 200 black residents, Sugar Ditch (located in Tunica, which had a white majority in the 1980s) made national headlines when community organizers revealed that inhabitants had to dump bathroom waste into ditches outside, and some home lacked any indoor plumbing at all.[164] While the city had received more than a million dollars in federal aid for sewer improvements, most of the money was reportedly directed to white subdivisions—"in a pattern that investigators from the United States Treasury Department called racially discriminatory."[165] The city council passed ordinances requiring landlords to "hook up sewer lines" or face a fine of $300 per day, but many landlords failed to comply.[166] Ultimately, as a result of the poor conditions of homes, and the lack of basic infrastructure, tenants had to vacate the neighborhood and were relocated outside of the city into new apartments with hot running water and toilets. Residents expressed ambivalence about the move to a new location at the time. While basic living conditions improved, the lack of employment opportunities and the lack of political power remained.[167]

8. Navajo Nation in the Western United States

Native Americans of the Navajo Nation, which spans Arizona, Colorado, Utah, and New Mexico lack adequate water infrastructure, and are estimated to be 67 times more likely than other Americans to live without running water or a toilet in their homes.[168] The American Community Survey estimates that, in 2017, 18.8% of housing units in the Navajo Nation Reservation and off-Reservation Trust Land did not have complete plumbing facilities.[169] Similarly high levels of lack of access to complete plumbing can be found among other indigenous populations.[170] While no current data for wastewater services exists, in 1990, over 45% of households disposed of sewage by means other than the public sewer system or a septic tank.[171] A recent report on Navajo health indicates that "[i]ndoor toilets are a luxury. Few communities have proper sewer systems, and it's not uncommon for septic tanks to collapse under the weight of cars."[172]

9. North Carolina

In Mebane, a small rural town in North Carolina, many residents rely on septic systems that are prone to chronic failure, resulting in fecal contamination of water supplies.[173] A recent study demonstrates that geographic disparities result, at least in part, from legally sanctioned segregation, putting low-income

people of color at a disadvantage in accessing basic services.[174] Researchers have also highlighted ways that the municipality has deliberately refused to incorporate African American communities into the city, with the impact of denying residents access to public water and sewer services.[175] Persistent community efforts to document the lack of access to services and its impacts on black residents on Mebane provided the basis for administrative complaints against the Department of Justice and the Environmental Protection Agency in the 1990s, which catalyzed Mebane's installation of water and sanitation infrastructure in parts of the West End Community. However, the struggle to get sanitation access for all residents is ongoing.[176]

As in other jurisdictions, advocates have demonstrated how persistent struggles can bring about change and succeed in ensuring governments live up to their obligations. In 2016, the historically Black Rogers-Eubanks community in North Carolina won a 45-year fight to improve its sewer infrastructure. Community members were finally able to pressure two nearby towns and one county government to make good on a 1972 promise to provide sanitation infrastructure and other services to the Community in exchange for placing a landfill there.[177] Through a combination of community-based advocacy and education, research partnerships, and filing a complaint against the EPA, these residents were able to hold the government accountable and improve sanitation access.[178]

10. Ohio: Youngstown and Zanesville

In 2017, Black residents in Youngstown neighborhoods filed a class action lawsuit against the city alleging that the city denied water drainage (storm sewer) services to residents of color, constituting discrimination.[179] The plaintiffs allege that they have historically been denied equal access to city services on the basis of race, despite paying equal fees and taxes. According to the complaint, the resulting sewage backups have damaged homes and caused mold and mildew to accumulate, which can lead to a variety of negative health effects and depreciate home values, and the city has taken no action to address these problems.[180] The case was pending in the Ohio District Court at the time of writing.

An earlier case dealing with access to water shows many parallels to current challenges that exist in the sanitation and wastewater context in Ohio and beyond. The city of Zanesville, Ohio historically discriminated against African American residents by refusing to serve African American families, cutting waterlines short and circumventing entire neighborhoods. In 1954, the city built a waterline near the neighborhood of Coal Run but "stopped short of the first African American family."[181] One article reports that while "their white neighbors ran their lawn sprinklers . . . across the street, African American residents of Coal Run might be saving used dishwasher for washing plates after their next meal."[182] From 1954 to 2004, officials in Muskingum County continuously refused to extend waterlines into the Coal Run neighborhood. As recently as 2002, Coal Run residents depended on the use of outhouses.[183]

Working with the Ohio Civil Rights Commission, residents successfully sued the City of Zanesville and Muskingum County in the US District Court for the Southern District of Ohio, alleging racial discrimination in violation of the Fair Housing Act[184] as well as Title VI of the Civil Rights Act of 1964.[185]

The *Zanesville* case[186] highlights the discrimination and stigma faced by residents of disadvantaged unincorporated communities.[187] It further illustrates familiar patterns found in communities demanding equal access to public services: racially identifiable neighborhoods, inferiority of services, and discriminatory intent or motive by the city and/or county. Ultimately, the court found Muskingum County liable for

discriminatory action, and the jury verdict awarded the Coal Run plaintiffs approximately $11 million in damages.[188] Water lines have now been extended to the neighborhood, ending an era of chamber pots and outhouses in Coal Run.

11. Puerto Rico

Rural communities in Puerto Rico rely primarily on septic systems and other on-site solutions. However, the intense rainfall and tropical climate is problematic for septic systems, which reportedly often result in discharges which contaminate the watershed and coastal environment.[189] The harmful impacts of inadequate sewage treatment in rural communities of Puerto Rico have been exacerbated by Hurricane Maria. As part of its Annual Human Rights Status Report in 2018, the U.S. Human Rights Network reports that the hurricane damaged water and sewage systems.[190] Some of the immediate effects included the disruption of access to running water, forcing residents to turn to nearby streams and wells. Electricity cut offs to wastewater treatment plants resulted in raw sewage pouring into local waters.[191]

12. Texas: Unincorporated Communities and the Colonias

Sandbranch, Texas, is an unincorporated community near Dallas that is 87% Black, 10% Latinx and 3% White.[192] Reportedly, all residents live below the federal poverty threshold.[193] According to reports, the community lacks any sewer system, and has never had running water.[194] Residents were able to use well water until 1980, but those sources, which were deemed inadequate more than thirty years ago,[195] are all either dry or contaminated. Residents believe that the nearby Wastewater Treatment Plant, which services parts of Dallas, is the cause of contamination.[196]

In Southern Texas, hundreds of thousands of residents have reportedly been living without running water, sewage treatment, or drainage for years in communities along the U.S.-Mexico border known as *colonias*, where residents are largely Latinx immigrants living in poverty.[197] The geology of the area makes it prone to flooding, and poor sanitary conditions produce contaminated wastewater where diseases like tuberculosis, typhoid, and dysentery—otherwise rarely found in the United States—flourish.[198] Many residents of *colonias* use on-site sanitation systems, such as septic tanks with drain-field systems.[199] Due to conditions that include high population density, small lot sizes, and poor storm drainage, most of these systems do not comply with county or state regulations and are susceptible to flooding, particularly after heavy rains.[200] In 2017, despite existing need, Texas reportedly heavily cut aid programs for the *colonias*, failing to renew a program that would provide running water and sewer service.[201]

These snapshots provide a glimpse into what is a little known but widespread problem of lack of access to sanitation and wastewater services in the United States. While some of the communities, such as in Michigan and the Appalachian region are predominantly White, communities of color face disproportionate challenges. These examples highlight how poverty and marginalization intersect with failing and absent infrastructure, forcing residents to bear the financial costs and environmental and health risks associated with having sewage in their backyard and surroundings. The picture appears bleak, but on the other hand, some jurisdictions presented above demonstrate that persistent community activism, advocacy, and litigation and can succeed in holding the government accountable and bringing about change for disadvantaged communities.

III. CASE STUDY: COSTS AND CONSEQUENCES OF INADEQUATE SANITATION IN LOWNDES COUNTY, ALABAMA

"There's a clear racial disparity here, there's no question about it. I think people who are impoverished of any color, but particularly African American people who are impoverished lack the social capital to be able to get their problems addressed. They are unable to get government to answer to them in the way that people who are more well off or have better connections can do."

- Dr. Scott Harris, Alabama State Health Officer (2018)[202]

To complement the snapshots that demonstrate the breadth of the problem, this section provides an in-depth examination of Lowndes County, Alabama. Following a brief historical background and overview of Lowndes County, this section discusses sanitation in Lowndes and how the existing regulatory framework inhibits adequate and affordable access to sanitation and wastewater services on the basis of equality. It concludes by highlighting the impacts that failing and inadequate sanitation has on Lowndes' residents.

Lowndes County, Alabama, a largely Black rural county in the United States, is emblematic of the ways that past discrimination and racism intersect with current law and policy to perpetuate inequality for the rural and majority Black population. The widespread lack of access to adequate sanitation in Lowndes County demonstrates how the continuous failure to respect, protect, and fulfill human rights leads to systemic rights violations, including ongoing infringement of the right to sanitation, with a particularly negative impact on communities already marginalized by their racial identity and socio-economic status.[203]

Lowndes County is located on the trail blazed by the 1965 Bloody Sunday March from Selma to Montgomery, which precipitated the passage of the Voting Rights Act and other landmark civil rights legislation.[204] Martin Luther King, Jr. marched through Lowndes with more than 600 activists in pursuit of basic human rights and freedoms for Black Americans.[205] As in many Black Belt communities, Lowndes' economy thrived in times of slavery when enslaved Black labor made plantations profitable.[206] The discrimination and inequality that undergirded slavery continue to impact all areas of life, as evidenced by struggles for basic rights, such as voting.[207] For example, in 1965, Lowndes had only one registered Black voter, though the population was 80% Black.[208] The state of Alabama is notorious for efforts to limit voting access, including through aggressive voter ID requirements, which have a disparate impact on Black residents[209] and determine both who makes policies and whose interests are represented at the state and local levels.

Lowndes' history, marked by slavery and lack of political representation for Black residents, can be linked directly to the lack of access to adequate sanitation that exists today. The same hard clay soil that made Lowndes so well suited to cotton plantations is an impediment to wastewater and sanitation disposal. The water-retaining soil does not absorb water well. Therefore, specialized wastewater disposal systems must be adequately constructed and maintained to ensure access to sanitation for residents. This requires political will and resources for infrastructure development and upkeep. Currently, there is neither. The situation in Lowndes County is characterized by a lack of sufficient funding and regulations that unfairly burden individuals and do not meet local needs. The regulatory framework places the primary responsibility for basic services on individuals, and criminalizes individuals who cannot afford to put costly sanitation systems in place. This has resulted in ailing and inadequate sanitation infrastructure, marked by failing

The situation in Lowndes country is characterized by a lack of sufficient funding and regulations that unfairly burden individuals and do not meet local needs. The regulatory framework places the primary responsibility for basic services on individuals, and criminalizes individuals who cannot afford to put costly sanitation systems in place.

septic tanks and open pipe sanitation systems, as well as sewage storage lagoons that are built right next to, and overflow into, residential areas.[210]

Communities in Lowndes are largely rural, low-income, and predominantly Black. According to the most recent census data, Lowndes' population of 10,358 is 75% Black.[211] The poverty rate in Lowndes is more than double the national average.[212] The County's median household income in 2018, $28,000, was about half the national average.[213] Poverty in Lowndes County has a racial component. Significantly more Black Lowndes County residents live below the poverty line (36.7%) than White Lowndes residents (3.4%),[214] and the median household income of Black families is less than half of that of White families.[215] The economic vulnerability of Black residents, which is linked closely with property ownership, is a key impediment to their ability to access adequate sanitation.[216]

1. Lack of Adequate Sanitation Infrastructure

According to a 2013 study, 18% of households across Alabama's Black Belt, which includes Lowndes County, had no means of wastewater disposal at all.[217] Even residents with access to wastewater disposal systems frequently had inadequate infrastructure.[218] This is true for those who use municipal systems, on-site systems, and straight-piping, which will be explored in turn in this section.

a. Municipal Sewer Access

Most Lowndes County residents who live in towns have access to a centralized sewage disposal system that links individual households to public sewer facilities.[219] However, the soil's high clay content and water-retaining properties limit the effectiveness of these centralized wastewater systems. As a result, sewage often builds and overflows, rather than being absorbed.[220] In (at least) one instance, this overflow resulted in the pollution of a local creek.[221] The city of Hayneville, Alabama, where 89.5% of the population is Black,[222] provides one example. The city relies on a lagoon sewage system, made up of large ponds meant to hold pre-treatment wastewater.[223] These ponds often overflow into the yards of residents who live nearby, a problem that is exacerbated during times of heavy rain.[224]

b. On-site Sewage Systems

The vast majority of Lowndes residents rely or would have to rely on on-site sewage systems[225]—up to 90% of which have been estimated to be either non-existent, failing or poorly functioning.[226] On-site systems can be costly, which is a threshold problem for many residents. The soil presents another challenge. Even where septic systems are installed, they can sink into the soil when there is significant rainfall, highlighting the importance of locally-designed solutions that meet community needs.[227]

Homeowners bear sole responsibility when on-site systems fail, but many of the issues that cause systems to fail are structural, and go back decades. As a 2018 article points out: "Many septic systems installed along with [federal subsidies for low-income housing] were inadequate at the time but were used anyway, leading to long-term violations of state public health codes. Many residents believed they had functioning septic systems when their homes were built, but found out years later that their septic systems never worked properly."[228]

While the estimate that up to 90% of systems in Lowndes County are failing is frequently cited, there is no recent comprehensive and reliable data (nor data disaggregated by race and ethnicity) on on-site sanitation use and failure in Lowndes County. State and local agencies do not collect this data. However, studies from groups such as the American Society of Civil Engineers demonstrate that failed systems are a significant issue in Alabama, and particularly in the Alabama Black Belt.[229] Philip Alston, the UN Special Rapporteur on Extreme Poverty, visited Lowndes County in 2017, and highlighted that the Alabama Health Department had no information on how many households face such difficult conditions, and, despite the grave health consequences of exposure to raw sewage, had no plans to address this issue.[230]

c. Straight-Piping

For many residents, the cost of installing a sanitation system is an insurmountable obstacle to accessing adequate sanitation. The median household income in Lowndes County is below $28,000[231] and septic systems that can handle Lowndes' unique soil can cost as much as $30,000,[232] making it unsurprising that many households do not have septic tanks installed.[233] To remove wastewater from their homes, residents must often turn to straight-piping, which exposes them to raw sewage in the immediate vicinity of their homes and beyond depending on where wastewater flows.[234]

2. Inadequate Funding for Sanitation

The situation in Alabama demonstrates how inadequate financial resources and existing law and policy negatively impact access to sanitation. Alabama's property taxes are among the lowest in the nation[235] and water and sewer rates charged to users provide the main source of funding for wastewater infrastructure in the state.[236] This funding typically supports municipal wastewater systems, but is not enough to cover operating expenses, with the result that there are very limited state funds available to replace aging infrastructure or support new improvements.[237]

Some communities in Lowndes have managed to secure federal funding to expand municipal sewer system connections, but the levels are insufficient to meet the County's needs.[238] As noted above, federal funding often comes in the form of loans, and rural communities can have trouble establishing their ability to pay back the funds.[239] Further, rural communities must often secure funding simply to support initial

planning to determine what sanitation options are available and feasible.[240] Additionally, without sufficient community input, funding can exacerbate existing infrastructure problems, as in the city of Hayneville, discussed above.[241] In 2018, the USDA announced new loan funds to support "the construction, upgrade, or expansion of clean and reliable drinking water systems, sanitary sewage systems, solid waste disposal infrastructure, and storm water drainage in rural areas."[242] However, rural communities will continue to face impediments to securing loan funds as a result of financial and capacity constraints, as well as strict eligibility requirements.[243]

3. The Role of Alabama Law: Unjust Homeowner Burden and Criminalization of Poverty

> *"What was striking to me in Alabama was the extent to which there's no sense that a government should be working towards providing basic infrastructure, [and] if you happen to live in one of the big cities, you will get access, but if you don't—and particularly if you live in one of the poor counties like Lowndes—there isn't any obligation and there are no plans in place."*
>
> - *UN Special Rapporteur on extreme poverty and human rights Philip Alston (2018)*[244]

Under Alabama state law, the vast majority of Lowndes residents carry the burden of installing and maintaining private sanitation infrastructure to handle and treat the wastewater that results from everyday life, including showering, washing, cleaning, urinating, and defecating.[245] A recent article recalls the conversation with a government official in 2009: "When asked what resources they have available to help them remedy the situation, Scott Logan … [a] county health professional, replied: 'We don't. Again, we're a regulatory agency.'"[246] In essence, the State neglects residents' needs and leaves them to their own devices. The laws, and their implementation, disproportionately impact Black residents, who tend to have lower incomes and property values than white residents.[247] Alabama's State Health Officer has acknowledged that there are racial disparities in sanitation, agreeing that "there's a problem where you see the better off White part of town being connected to the sewer system, and the poor, worse off Black part of town not being connected to the system."[248] Further, Alabama criminalizes residents when they are unable to afford the expensive wastewater systems appropriate for Lowndes' soil as explained below.

State and local authorities do not provide funding for on-site systems, yet they do control resident access by regulating and overseeing the range of technologies homeowners can use, and designating who is authorized to provide, install, and service wastewater systems.[249] The Alabama Department of Public Health and the Alabama Onsite Wastewater Board are responsible for granting permits for siting, designing, constructing, installing, and operating the systems.[250] Thus, government actors determine what systems residents can use but pass the responsibility for failing systems on to residents. Residents bear both the financial burden, and the threat of criminalization when costly government regulated and approved systems fail.[251] Local laws fail to account for issues of poor design or installation, and place the costly burden of system maintenance on individual homeowners, most of whom live below or close to the poverty line.[252]

In Alabama, the failure to maintain and install plumbing, septic tanks, or other waste disposal systems can qualify as a misdemeanor, and has led to fines, arrests, and litigation.[253] There are well-documented cases of residents being arrested, and criminalized when they lack the means to comply with burdensome sanitation requirements.[254] During a 17 month period from 1999-2002, at least ten people were charged with sanitation violations, all of whom were African American.[255] In one egregious example from 2014,

local officials arrested a pastor in Pike County because of his church's failing septic system.[256] The pastor had been unable to connect to the municipal system because the owner of the neighboring property denied him access to the sewer main, located on the neighbor's property.[257] Although the Department of Public Health claims that it is not currently issuing arrest warrants for non-compliance,[258] steep fines for inadequate sanitation can accrue daily and range from $25 to $500 a day[259]—fines that further reduce residents' ability to pay for sanitation systems. From March 2015-March 2016, the Alabama Department of Public Health cited about 700 people for failure to comply with sanitation regulations.[260] As noted elsewhere, "[f]ines entered residents into a process designed to regulate their behavior without providing mechanisms for improving their circumstances."[261]

Even if people are no longer arrested or fined in practice, the threat of criminalization remains as long as the law continues to define the lack of on-site sanitation systems as a misdemeanor. Trust in public institutions has eroded in Lowndes County because residents do not perceive public health officials and other local authorities as potential service providers representing their interests, but as a threat. One example is lifelong Lowndes resident Walter McMeans, who consistently has raw sewage around his home, but does not contact authorities about the problem because of his concern that authorities will "come out here and condemn everybody and come up with these outrageous price [sic] and building raised beds and stuff like that. And they gonna give you a certain amount of time to come up with it and if you don't, then you gonna have to move."[262] Many in Lowndes believe that the threat of criminalization has been used against vulnerable community members.[263] For example, one 27-year-old woman with an autistic child, who relies on an annual disability income of $12,000, has faced threats of arrest and family separation from law enforcement due to her inability to afford a septic system that costs half of her annual income.[264]

The threat of criminalization, arrest, and prosecution, as well as mounting fines, reinforce historic inequalities and continue cycles of marginalization. A recent report by the Unitarian Universalist Service Committee describes the long term, structural impacts of lack of access to adequate sanitation: "There is the obvious cost to public and individual health, but there is also the cost in lower property values and increased debt that contribute to cycles of poverty, the unmet costs of installing sanitation systems, the cost of defending prosecutions and possible job loss due to criminal records." [265]

There are few avenues for those who lack access to adequate or affordable sanitation to influence the laws and policies that impact them in this jurisdiction, reflecting a long history of political exclusion of Black residents. As a result, residents face constant financial risk, daily impacts on their health and dignity, and a sense of disillusionment.

4. Personal and Community Impacts of Inadequate Sanitation

The dire state of sanitation infrastructure in Lowndes County subjects residents to a panoply of negative impacts, from increased risk of exposure to parasitic and tropical diseases to costs to personal dignity and emotional wellbeing, compounding the negative impacts of poverty.

Lowndes residents face significant health risks from exposure to waste and contaminated water. Faulty septic tanks and rain-flooded waste pipes have resulted in raw sewage backing up into many households—through bathtubs, sinks, and overflowing toilets.[266] Record rainfall in 2017 made this problem even worse.[267] In a 2017 survey of Lowndes residents, 42% of participants reported that they had raw sewage

Lowndes has experienced a resurgence of tropical diseases typically associated with extreme poverty, including hookworm, long thought to have been eradicated in the United States.

coming into their homes.[268] Lowndes residents also face increased risks of groundwater contamination due to failing sanitation infrastructure.[269] One 2013 study estimated that failing septic systems resulted in groundwater contamination that put 340,000 low-income people in rural Alabama at an elevated risk of waterborne diseases.[270] Further, Lowndes has experienced a resurgence of tropical diseases typically associated with extreme poverty, including hookworm, long thought to have been eradicated in the United States. Health studies found that the prevalence of hookworm in Lowndes correlates with the lack of adequate sanitation systems and exposure to open sewage near dwellings.[271] Increased rates of gastrointestinal parasites experienced by Lowndes residents that had raw waste backing up into their homes have also been reported.[272]

When sewage backs up into residents' homes and septic systems flood residents' yards, people in Lowndes must cope with severe smell and discomfort.[273] One Hayneville resident describes the emotional toll of dealing with her failing municipal system: "[Sewage] was coming back in my bathtub one time. I broke down crying."[274] Residents who rely on straight-piping face constant costs to their dignity, as sewage pools in or near yards at all times. As one resident explained, there is no escaping the problem, "It's the odor, it's the smell, it's the raw sewage that comes out of a person's body."[275]

In addition to the smells, residents confront challenges in using basic home facilities, such as toilets and showers, when sewage backs up. Residents note the consistent need to plan out when and where to use basic facilities, such as the toilet, in case of sewage backup and plumbing failure.[276] The constant threat of flooded sewage during rainy days leaves residents in perpetual worry, and pooling sewage in yards prevents families from enjoying daily life. As one resident explained, she is "waiting for the year when spring break comes and her son and grandchildren can go outside and play in their yard. Or for the night when she can fall to sleep to the sound of rain and not fear."[277] Ongoing lack of adequate sanitation has physical and psychological impacts, with long-term consequences and has repercussions for other human rights, including the rights to health, work, and education.[278]

The global human rights framework provides a set of key principles and standards that can be used to ensure that laws and policies put in place to address sanitation challenges respond to communities most in need, and prioritize solutions that are safe, affordable, accessible, adequate, and available to all equally. Key elements of the human rights framework for sanitation are presented in the following section.

IV. HUMAN RIGHTS STANDARDS ON THE RIGHT TO SANITATION ON THE BASIS OF EQUALITY

The international community has articulated the foundational elements of the human right to sanitation, and developed a framework for advancing this right at the national level in accordance with human rights standards. This framework provides important guidance to the United States. This section briefly distills the globally accepted definition of the right to sanitation, and explains how human rights standards can inform sanitation laws, policies, and practice. To align with human rights standards, law and policy must reflect the right to be free from discrimination, the right to access to basic services on the basis of equality, and the right to participation. This section concludes with a distillation of recommendations that have already been made to the United States to enhance human rights promotion and protection in areas relevant to sanitation, including health and housing.

1. Right to Sanitation on the Basis of Equality

The human right to sanitation, as articulated by the United Nations General Assembly, "entitles everyone, without discrimination" to affordable and accessible sanitation, "that is safe, hygienic, secure, socially and culturally acceptable and that provides privacy and ensures dignity."[279] The UN Declaration on the Rights of Indigenous Peoples expressly emphasizes that "[i]ndigenous peoples have the right, without discrimination, to the improvement of their economic and social conditions, including, inter alia, in the areas of education, employment … housing, sanitation, health and social security."[280]

The human right to sanitation goes beyond having access to toilets or latrines; it also requires an adequate method of waste collection, transport, treatment, and disposal, or re-use. Safe treatment must minimize direct contact with human waste to minimize health risks for the people using the facilities as well as others in the community.[281] To give effect to this right, the UN Special Rapporteur on the human rights to safe drinking water and sanitation has identified the need for governments to "ensure that self-supply solutions comply with human rights obligations and are appropriate and affordable. States need to put appropriate systems in place, including regulation and financial support for those who need it."[282]

United Nations resolutions on the human rights to water and sanitation indicate that these rights are derived from the right to an adequate standard of living as articulated in the Universal Declaration of Human Rights (UDHR)[283] and guaranteed in the International Covenant on Economic, Social, and Cultural Rights (ICESCR), the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW), and the Convention on the Rights of the Child (CRC). The United States has not ratified these three conventions, but has repeatedly indicated support for economic and social rights.[284] The United States has co-sponsored a series of resolutions on the human rights to water and sanitation, and joined consensus on others.[285] In doing so, the federal government has demonstrated a significant political commitment to ensure the realization of these rights both at home and abroad. The United States has also endorsed the UN Declaration on the Rights of Indigenous Peoples,[286] which expressly refers to sanitation. While the U.S. government has consistently taken the position that it has no international *legal* obligations to ensure the right to sanitation,[287] it has also stated that the United States "continue[s] to improve … domestic laws and policies to promote access to housing, food, health, and safe drinking water and sanitation, with the aim of decreasing poverty and preventing discrimination."[288]

Human rights obligations related to the right to sanitation are also derived from treaties that the United States has ratified: the Convention Against Torture (CAT),[289] the International Covenant on Civil and Political Rights (ICCPR),[290] and the International Convention on the Elimination of All Forms of Racial Discrimination (ICERD).[291] Of particular significance in the U.S. context are ICERD provisions that prohibit racial discrimination and guarantee the right of everyone to health and basic services.[292]

As a party to the ICERD, the United States has obligations to "prohibit and to eliminate racial discrimination in all its forms," including in public health and social services,[293] and to "ensure ... equal enjoyment … of human rights and fundamental freedoms."[294] ICERD defines discrimination broadly to include any "distinction, exclusion, restriction or preference based on race, colour, descent, or national or ethnic origin" that infringes on the enjoyment of human rights in "purpose or effect."[295] The Convention requires achieving substantive equality, which focuses on equality in outcomes, not just formal equality in law. To promote substantive equality, governments must take affirmative steps to eliminate discrimination, and proactively identify and eliminate laws and policies with disparate racial impacts.[296] Under this framework, it is permissible and sometimes necessary to treat differently situated groups differently in order to foster equal enjoyment of rights.[297]

The Committee on the Elimination of Racial Discrimination, which interprets the Convention and monitors compliance with its provisions, has emphasized that is appropriate, and sometimes necessary, for governments to adopt special measures to "secure to disadvantaged groups the full and equal enjoyment of human rights and fundamental freedoms."[298] For example, to ensure that laws and policies are effective in achieving greater equality and eliminating discrimination, the Committee has called on governments to collect disaggregated data, which is essential to understand how law and policy impact particular communities and groups on the basis of race and identity, and to generate more effective and targeted solutions to address persistent forms of discrimination.[299]

2. Participation in Decision-Making on Sanitation Services

The UN Special Rapporteur on the human rights to safe drinking water and sanitation has explicitly stated that "active, free and meaningful" participation in decision-making, on an equal basis, is essential to fulfill the right to sanitation, and related rights.[300] The UN Sustainable Development Goals (SDGs) also prioritize participation in meeting the goal of "ensuring availability and sustainable management of water and sanitation for all."[301] One of the targets established to achieve that goal is to "[s]upport and strengthen the participation of local communities in improving water and sanitation management."[302]

ICERD further guarantees the right to participate in public affairs and decision-making at all levels.[303] To fulfill this right governments must ensure that ethnic, racial, and religious groups participate in policy formation so that decision-making reflects their unique circumstances, and aims to address discrimination.[304] The United Nations expert on extreme poverty has also emphasized that "meaningful and effective" political participation of people living in poverty is vital to ending cycles of inequality.[305]

What this means is that people who experience violations of the right to sanitation need to be involved in defining the problem, as well as in identifying and testing solutions. Participation of impacted individuals can mitigate an over-reliance on technical expertise to the detriment of experiential and local knowledge, which can have negative impacts as demonstrated by the example of Uniontown, Alabama.[306] Residents

who lack adequate sanitation know the most about their lives, their communities, and the challenges they face. Residents' participation in decision-making is not only a right, but is essential to securing functional, durable, and sustainable solutions.[307]

Global human rights standards reflect international consensus on the right to sanitation. The United States has international legal obligations to combat discrimination and foster equality, and longstanding political commitments to support the human right to sanitation. Human rights standards, therefore, provide an important framework for informing and improving domestic law and policy related to sanitation.

3. Existing United Nations Recommendations to the United States

As part of ongoing reviews of the United States' human rights record, the United States has received a number of recommendations aimed at strengthening protections for the right to sanitation, and effectuating the rights articulated in human rights agreements. This includes calls to implement the human rights to safe water and sanitation without discrimination for people living in poverty, indigenous peoples and migrants, and to comply with the human right to water and sanitation as laid out in UN General Assembly resolution.[308] Past presidential administrations accepted these recommendations, at least in part.[309]

Following a 2011 visit to the United States, the UN Special Rapporteur on the human rights to water and sanitation further recommended that the United States:

- "[a]dopt a comprehensive federal law on water and sanitation guaranteeing the rights to safe water and sanitation without discrimination and clearly delineating the responsibilities of public officials at the federal, state and local levels;"
- "[f]ormulate a national water and sanitation policy and plan of action …. that devote priority attention to improving aging infrastructure, as well as innovative designs and approaches that promote human rights, are affordable and create more value in terms of public health improvements, community development and sustainability; and
- [e]valuate the extent to which people living in poverty face challenges in paying for water and sanitation services, and adopt, at the federal level, a national minimum standard on affordability of water and sanitation."[310]

In 2016, the Working Group of Experts on People of African Descent voiced its concern over disparities in access to a whole range of socio-economic rights[311] and called on the United States government to uphold the human right to adequate sanitation.[312] During a 2017 visit to the United States, the UN Special Rapporteur on extreme poverty and human rights visited Lowndes County to learn about challenges facing residents, including the dire wastewater conditions. At the conclusion of the visit, he expressed deep concern about the lack of available services,[313] and emphasized the need to eliminate laws that criminalize poverty.[314] This includes laws that punish individuals unable to afford basic services and exacerbate stigmatization.

Over the past twenty years, the CERD Committee has repeatedly called on the United States to address inequalities, recommending a series of measures that could help address the causes of discrimination in the United States, and improve access to adequate sanitation. For example, the Committee has recommended that the United States review existing laws and policies to "ensure effective protection against any form of racial discrimination and any unjustifiably disparate impact."[315]

During its last review of the United States in 2014, the CERD Committee made a number of recommendations that underscore how current domestic law and policy continue to marginalize communities of color and perpetuate inequalities. The Committee highlighted patterns of racism and discrimination that result from current law and policy and serve as barriers to the enjoyment of economic and social rights.[316] The Committee discussed the disproportionate impact of environmental pollution on communities of color[317] and persistent racial segregation in housing, noting the strong correlation between inadequate housing conditions and services.[318] The Committee called on the United States to address the impacts of discrimination and foster equality by taking measures to prevent environmental harm and to ensure the affordability of housing.[319] The Committee also criticized laws that criminalize homelessness and basic life-sustaining activities and recommended the elimination of laws that criminalize activity inherent to being homeless.[320] In the context of sanitation, similar changes to law and policy could help improve access to basic sanitation, facilitate healthier environments, and put an end to laws that criminalize poverty, including the failure to afford wastewater disposal systems.

Global standards and recommendations to the United States from an array of international human rights experts demonstrate that the development of clear standards at the federal level, the participation of the individuals and communities concerned in the decisions that affect their lives, the collection of disaggregated data, and the elimination of laws that criminalize poverty and life-sustaining activities are vital to address discrimination and achieve substantive equality in access to sanitation.[321]

Despite clearly delineated standards and recommendations, there has been scant government effort to gather or publish data on who has access to municipal sanitation systems, on-site systems, or other means of sanitation, or whether these systems are sufficient and affordable. Further, despite indications that the lack of access to sanitation and the attendant health consequences disproportionately impact communities of color, state and local authorities do not appear to be making an effort to examine or amend existing law, policies, and financing mechanisms. Without better data collection and analysis, and a sustained focus on targeted solutions, the United States will continue to be out of step with its international obligations, and will further perpetuate racial and economic disparities and inequality.

V. CONCLUSION

The human right to sanitation remains unfulfilled across the United States. This report is the first to put the spotlight on rural areas and to highlight the national scope of the problem of significant disparities in access to sanitation. In one of the richest countries in the world, residents experience deprivation to the extent that some have raw sewage and feces backing up into their homes. Rural communities have also experienced a resurgence of hookworm, a disease that has long thought to have been eradicated in the United States.

While the issue of sanitation in some jurisdictions, such as in Lowndes County, has received increasing attention in recent years, this report shows that lack of access to sanitation and wastewater services is a systemic problem of national scale. Rural communities in Alabama, Alaska, California, Kentucky, Louisiana, Michigan, Mississippi, the Navajo Nation, North Carolina, Ohio, Puerto Rico, Tennessee, Texas, Virginia, West Virginia, and most likely many other jurisdictions not covered in this report, lack adequate sanitation, which forces residents to endure daily exposure to raw sewage in their homes, backyards and communities.

Disparities in sanitation access play out along racial, ethnic, geographic, and socio-economic lines, harming in particular Black, Latinx, and indigenous communities. Organizing, advocacy, and discrete litigation have confirmed the prevalence of discrimination and exclusion, but have only yielded piecemeal change. The lack of comprehensive, disaggregated data poses a significant challenge to comprehensive solutions. Collecting such data and recognizing the scope of the problem would be the first step to addressing violations of the human right to sanitation.

At present, laws, policies, financing, and service provision are designed in a way that keeps basic sanitation out of reach for many rural communities. Decades of neglect and disinvestment have entrenched historic inequalities and continue to exacerbate poverty and exclusion. The burden of installing on-site sanitation is largely on individual households, and for many the costly systems are out of reach. Additionally, in many cases, governments not only fail to support households in installing and maintaining adequate sanitation systems, but they criminalize individuals who are unable to comply with burdensome and costly regulations.

People living in communities with failing and inadequate sanitation and wastewater do not have the luxury to flush and forget. Instead they are the ones being forgotten, if not deliberately excluded. The lack of basic infrastructure goes hand in hand with a lack of political power, leading to a vicious cycle of poverty and disillusionment. Many of these communities are unincorporated, others are in jurisdictions rife with barriers to voting. The resulting lack of representation and participation in decision-making is combined with a deep erosion of trust in public institutions—with significant repercussions for access to services. This results in a loss of trust in government and elected officials, while government institutions also have the ability to act without a sense of accountability towards their constituents.

The human rights framework provides guidance for change. New sanitation systems and new approaches to policy-making that account for the needs and realities of rural communities are necessary to advance the right to sanitation in the United States. The Recommendations detailed above provide concrete ways to operationalize human rights principles in law, policy, and practice. By grounding sanitation law and policy in the human rights principles of equality, participation, and accountability, advocates and policymakers can design durable solutions that put concerned communities front and center.

ENDNOTES

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17 *See* Erin Riggs et al., Envtl. Fin. Ctr. at the Univ. of N.C., Chapel Hill, An Overview of Clean Water Access Challenges in the United States 1, at 11 (2017), https://efc.sog.unc.edu/sites/www.efc.sog.unc.edu/files/2018/An%20Overview%20of%20Clean%20Water%20Access%20Challenges%20in%20the%20United%20States.Final_.pdf.

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21 *See* Catarina de Albuquerque, Realising the Human Rights to Water and Sanitation: A Handbook by the UN Special Rapporteur - Monitoring Compliance with the Human Rights to Water and Sanitation 8 (2014), https://www.ohchr.org/en/issues/waterandsanitation/srwater/pages/handbook.aspx; Comm. on Econ., Social & Cultural Rights, General Comment 20 on Non-Discrimination in Economic, Social and Cultural Rights, ¶ 41, U.N. Doc. E/C.12/GC/20 (July 2, 2009).

22 For example, ICERD, which the United States has ratified, indicates that "all public authorities and public institutions, national and local, shall act in conformity with" obligations to eliminate racial discrimination. *See* International Convention on the Elimination of All Forms of Racial Discrimination art. 2, ¶ 1(a), *adopted* Dec. 21, 1965, 660 U.N.T.S. 195, 218 (entered into force Jan. 4, 1969) [hereinafter ICERD].

23 When ratifying the ICERD, the United States included an understanding that the treaty "shall be implemented by the Federal Government to the extent that it exercises legislative and judicial jurisdiction over the matters covered therein, and *otherwise by the state and local governments*. To the extent that state and local governments exercise jurisdiction over such matters, the Federal Government shall, as necessary, take appropriate measures to ensure the fulfillment of this Convention." International Convention on the Elimination of All Forms of Racial Discrimination, Ratification of the United States of America, Oct. 21, 1994, 1830 U.N.T.S. 284, 285 (emphasis added).

24 *See, e.g.*, Catarina de Albuquerque & Virginia Roaf, On The Right Track - Good Practices in Realising the Rights to Water and Sanitation 23 (2012), https://www.ohchr.org/documents/issues/water/bookongoodpractices_en.pdf.

25 *See* United Cities & Local Gov'ts, The Sustainable Development Goals: What Local Governments Need to Know 8, https://www.uclg.org/sites/default/files/the_sdgs_what_localgov_need_to_know_0.pdf (last visited May 1,

2018); *see also* G.A. Res. 71/313, Global Indicator Framework for the Sustainable Development Goals and Targets of the 2030 Agenda for Sustainable Development, ¶ 6.B.1 (July 6, 2017).

[26] 33 U.S.C. §§ 1251–1387 (2012); 42 U.S.C. § 300f (2012).

[27] For example, under the Clean Water Act, non-government entities can generally receive funds from the Environmental Protection Agency. *See* Water Infrastructure Improvements for the Nation Act, Pub. L. No. 114-322, 130 Stat. 1628 (2016). However, states manage the funds and their disbursement. In Alabama, for instance, non-government entities are not eligible. AL. DEP'T OF ENVTL. MGMT., *Alabama State Revolving Fund,* http://www.adem.state.al.us/programs/water/srf.cnt ("Any public body, including water boards, utilities, and municipalities may apply for SRF financing. An ability to repay must be substantiated along with meeting other specified standards.").

[28] *See* Gasteyer et al., *supra* note 13, at 306 (based on data from the American Community Survey).

[29] *American Housing Survey*, U.S. CENSUS BUREAU, https://www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html#?s_areas=a00000&s_year=n2015&s_tableName=Table4&s_byGroup1=a1&s_byGroup2=a1&s_filterGroup1=t1&s_filterGroup2=g1&s_show=S, year selected 2015 (last visited Feb. 10, 2019).

[30] U.S. ENVTL. PROTECTION AGENCY, HOMEOWNER'S GUIDE TO SEPTIC SYSTEMS (2005), https://www3.epa.gov/npdes/pubs/homeowner_guide_long.pdf.

[31] EARTHJUSTICE & ALA. RIVERS ALLIANCE, SUBMISSION TO THE UN SPECIAL RAPPORTEUR ON EXTREME POVERTY AND HUMAN RIGHTS IN PREPARATION FOR THE OFFICIAL 2017 VISIT TO THE UNITED STATES 2 (2017) (on file with authors); ACRE ET AL., SUBMISSION TO THE UN SPECIAL RAPPORTEUR ON EXTREME POVERTY AND HUMAN RIGHTS IN PREPARATION FOR THE OFFICIAL 2017 VISIT TO THE UNITED STATES 3-4 (2017), https://www.ohchr.org/Documents/Issues/Poverty/VisitsContributions/USA/ACRE.pdf.

[32] Jackie Verrecchia, *The Feasibility of Septic Systems for Households in Poverty in Lee County, Virginia,* 24 J. APPALACHIAN STUD. 223, 227 (2018).

[33] See e.g. MN. POLLUTION CONTROL AGENCY, *Straight-Pipe System Law, Guidance for Local Governments* (June 2018), https://www.pca.state.mn.us/sites/default/files/wq-wwists2-38.pdf.

[34] *de Albuquerque US Mission Report*, *supra* note 15, ¶ 27.

[35] *Id*.

[36] Sunita Narain, *The Flush Toilet is Ecologically Mindless*, DOWN TO EARTH, Feb. 28, 2002, at 28.

[37] *de Albuquerque US Mission Report*, *supra* note 15, ¶¶ 16.

[38] U.S. ENVTL. PROTECTION AGENCY, RESPONSE TO CONGRESS ON THE USE OF DECENTRALIZED WASTEWATER SYSTEMS, at i-ii (1997), https://www.epa.gov/sites/production/files/2015-06/documents/septic_rtc_all.pdf.

[39] *See* UNITED STATES OF AMERICA, VIEWS OF THE UNITED STATES OF AMERICA ON HUMAN RIGHTS AND ACCESS TO WATER 5 (2007), https://www2.ohchr.org/english/issues/water/contributions/UnitedStatesofAmerica.pdf.

[40] 33 U.S.C. §§ 1251–1387 (2012); 42 U.S.C. § 300f (2012).

[41] *See, e.g.*, *Environmental Health: How Septic Systems Are Regulated*, COUNTY SANTA CRUZ, http://scceh.com/Home/Programs/LandUse,SewageDisposalWasteWaterManagement/HowSepticSystemsareRegulated.aspx (last visited Jan. 5, 2019).

[42] 42 U.S.C. § 300f (2016).

[43] 33 U.S.C. § 1251 (1987).

[44] *See* ENVTL. LAW INST., STATE CONSTRAINTS: STATE IMPOSED LIMITATIONS ON THE AUTHORITY OF AGENCIES TO REGULATE WATERS BEYOND THE SCOPE OF THE FEDERAL CLEAN WATER ACT 11 (May 2013) ("The Clean Water Act establishes national minimum standards – essentially, a stringency "floor" – beneath which starts are not allowed to fall in their protection of water quality."); The Safe Drinking Water Act was adopted in order to "assure that water supply systems serving the public meet minimum national standards for protection of public health." H.R. Rep. No. 1185, 93d Cong., 2d Sess. 1 (1974).

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51 *See, e.g.*, Ill. Model Sewer Use Ordinance, *supra* note 49.

52 *See, e.g.*, Ill. Model Sewer Use Ordinance, *supra* note 49. For instance, the City of Donnelly, Idaho, provides that violations of the sewer code will result in "a fine not exceeding $300.00 or imprisonment in the county jail not exceeding 30 days, or both such fine and imprisonment, for each violation. Each day in which any such violation shall continue shall be deemed a separate offense." Donnelly, Idaho, City Code § 13.10.210 (1974).

53 *See, e.g.*, N.Y. Model Sewer Use Law, *supra* note 49.

54 *See, e.g.,* Fred Baldwin, *Cleaner Water: North Carolina's Straight-Pipe Elimination Project*, Appalachia Mag. (Sept. 1, 1999), https://www.arc.gov/magazine/articles.asp?ARTICLE_ID=94.

55 *See, e.g.*, Denae King et al., *Health and Healthcare Perspectives of African American Residents of an Unincorporated Community: A Qualitative Assessment*, 15 Health & Place 420, 421 (2009); Bernice Yeung, *Unincorporated Communities Lack Basic Services*, SFGate (Apr. 7, 2012), https://www.sfgate.com/news/article/Unincorporated-communities-lack-basic-services-3465042.php.

56 *See* Michelle Wilde Anderson, *Cities Inside Out: Race, Poverty & Exclusion at the Urban Fringe*, 55 UCLA L. Rev. 1095, 1156-59 (2008); *see also* PolicyLink, California Unincorporated: Mapping Disadvantaged Communities in the San Joaquin Valley (2013), https://www.policylink.org/sites/default/files/CA%20UNINCORPORATED_FINAL.pdf.

57 Anderson, *supra* note 56, at 1107-08.

58 *See, e.g.*, PolicyLink, *supra* note 56, at 7; *see also* Hannah Gordon Leker & Jacqueline MacDonald Gibson, *Relationship Between Race and Community Water and Sewer Service in North Carolina, USA*, PLOS ONE, Mar. 21, 2018, at 1, 14; Yeung, *supra* note 55.

59 *See, e.g.*, UC Davis Ctr. for Reg'l Change, The Struggle for Water Justice in California's San Joaquin Valley: A Focus on Disadvantaged Unincorporated Communities 9-10 (2018), https://regionalchange.ucdavis.edu/sites/g/files/dgvnsk986/files/inline-files/The%20Struggle%20for%20Water%20Justice%20FULL%20REPORT_0.pdf; Anderson, *supra* note 56, at 1118.

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61 Jonathan L. Ramseur, CRS Report 7-570, *Wastewater Infrastructure: Overview, Funding, and Legislative Developments* 4 (May 22, 2018) (describing the flow of funds from through states, and highlighting that "CWSRFs are loan programs. States use their CWSRFs to provide several types of financial assistance to communities, including project construction loans made at or below market interest rates, refinancing of local debt obligations, providing loan guarantees, and purchasing insurance," and that "[s]tates must agree

to use CWSRF monies first to ensure that wastewater treatment facilities are in compliance with deadlines, goals, and requirements of the act" and then have some discretion for further projects), https://fas.org/sgp/crs/misc/R44963.pdf.

62 The U.S. Department of Agriculture has a Rural Development Assistance Program with a waste disposal focus. *See Water & Waste Disposal Loan & Grant Program in Alabama*, U.S. Dep't Agric., https://www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program/al (last visited Jan. 23, 2019).

63 The US Department of Housing and Urban Development issues Community Development Block Grants (CDBG), which provide some funds to sanitation and wastewater systems. *Community Development Block Grant Program,* U.S. Dep't of Hous. and Urban Dev, https://www.hud.gov/program_offices/comm_planning/communitydevelopment/programs (last visited Feb. 17, 2019).

64 The Indian Health Service administrates a national Sanitation Facilities Program, allocating resources through its area offices. *See also infra* notes 77-83 and accompanying text.

65 *See* 33 U.S.C. § 1383(b) (2012): Water pollution control revolving loan funds ("Each State water pollution control revolving fund shall be administered by an instrumentality of the State with such powers and limitations as may be required to operate such fund in accordance with the requirements and objectives of this chapter."); *see also* U.S. Envtl. Protection Agency, Drinking Water State Revolving Fund Eligibility Handbook 5 (2017) (discussing allocation of drinking water funds), https://www.epa.gov/sites/production/files/2017-06/documents/dwsrf_eligibility_handbook_june_13_2017_updated_508_version.pdf.

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67 *See generally* Maxwell Izenberg et al., *Nocturnal Convenience: The Problem of Securing Universal Sanitation Access in Alabama's Black Belt*, 6 Envtl. Just. 200 (2013); For California see e.g. Ca. State Water Resources Control Bd., *Funding Sources Available for Onsite Wastewater Treatment Systems* ("Private parties are not eligible for direct assistance from the CWSRF Program; however, financing provided through the CWSRF Program may be made available to private parties through a Mini-Loan Program. With a Mini-Loan Program, the CWSRF Program provides financing to a local public agency (i.e., city, county, or district)."), https://www.waterboards.ca.gov/water_issues/programs/owts/docs/resources4localagencies.pdf (last visited Feb. 17, 2019). The funding for small decentralized systems that is available to community groups and homeowners is subject to the following limitation: "Since the program is managed by the states, project funding and eligibility requirements vary according to the priorities, policies, and laws within each state." *Funding Decentralized Wastewater Treatment Systems with the Clean Water State Revolving Fund (2016),* U.S. Envtl. Protection Agency, *https://www.epa.gov/sites/production/files/2016-11/documents/funding_decentralized_wastewater_treatment_systems_with_the_clean_water_state_revolving_fund2.pdf.* (last visited Feb. 17, 2019).

68 Assistance is often in the form of direct loans, with credit rating and other approval requirements, which limit their accessibility to individuals in poverty. *See* Izenberg et al., *supra* note 67, at 203–04.

69 *See Learn About the Clean Water State Revolving Fund*, U.S. Envtl. Protection Agency (Mar. 6, 2018), https://www.epa.gov/cwsrf/learn-about-clean-water-state-revolving-fund-cwsrf.

70 *See* Ramseur, *supra* note 61, at 5-7; Drinking Water State Revolving Fund Eligibility Handbook, *supra* note 65; *Small and Rural Wastewater Systems*, U.S. Envtl. Protection Agency, https://19january2017snapshot.epa.gov/small-and-rural-wastewater-systems/funding-sources-small-and-rural-wastewater-systems_.html (last visited May 25, 2018).

71 For an overview, see *Small and Rural Wastewater Systems*, *supra* note 70. For instance, some of the programs are geared towards pollution control or watershed protections, while others are targeted at tribal communities or US-Mexico border communities.

72 Response to Congress on the Use of Decentralized Wastewater Systems, *supra* note 38, at 25-26.

73 *See generally* U.S. Envtl. Protection Agency, SRF Fund Management Handbook, https://www.epa.gov/sites/production/files/2018-04/documents/fund_management_handbook_2018final.pdf; *see also* Ramseur, *supra* note 61 , at 5-7.

74 The challenges rural governments face in securing federal competitive grants is not unique to the sanitation context. *See, e.g.,* Center for American Progress, Make Rural Schools a Priority: Considerations for Reauthorizing the Elementary and Secondary Education Act 2 (Aug. 2011) ("Competitive funds can encourage reform and reward grantees who make valuable changes. But some competitive grants may make it more difficult for rural districts to compete. For example, the first round of the Investing in Innovation Fund competition asked applicants to demonstrate how much their innovative practices would cost to scale up to serve 100,000 to 500,000 to 1 million students. Rural districts—and even whole states—do not have this many students, capacity to serve them if they did, or ability to estimate such a cost in their rural context.").

75 *See, e.g.*, Tara Lohan, *Systemic Failure: Why 1 Million Californians Lack Safe Drinking Water*, News Deeply, https://www.newsdeeply.com/water/articles/2017/07/05/systemic-failure-why-1-million-californians-lack-safe-drinking-water.

76 Manuel P. Teodoro, Mellie Haider & David Switzer, *U.S. Environmental Policy Implementation on Tribal Lands: Trust, Neglect, and Justice*, 46 Pol. Stud. J. 37, 43 (2016); *see also* Mark E. Chandler, *A Link Between Water Quality and Water Rights: Native American Control Over Water Quality,* 30 Tulsa L. Rev. 1, 105-106; 114; 119-120 (1994).

77 *See, e.g.,* George McGraw, *For These Americans, Clean Water Is a Luxury*, N.Y. Times (Oct. 20, 2016), https://www.nytimes.com/2016/10/20/opinion/for-these-americans-clean-water-is-a-luxury.html.

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79 There are examples of larger inter-tribal entities and non-profits that apply for federal funding, and then distribute to smaller tribal communities in order to access funding. See, for example, *Kawerak*, a tribal consortium that contracts with federal and state governments to provide services to government to provide services to Alaskan Native Peoples. *See About Us*, Kawerak, Inc., http://kawerak.org/about-us/who-we-are/.

80 *See* Envtl. Fin. Ctr. Network, Navajo Nation Water and Wastewater Funding Sources (2018) (aggregating a list of potential funding sources), https://efcnetwork.org/wp-content/uploads/2018/07/Navajo-Nation-Water-Wastewater-Funds-2018.pdf.

81 *Clean Water Indian Set-Aside Program*, U.S. Envtl. Protection Agency, https://www.epa.gov/small-and-rural-wastewater-systems/clean-water-indian-set-aside-program (last visited Jan. 23, 2019).

82 *Clean Water Indian Set-Aside Program Funding*, U.S. Envtl. Protection Agency, https://www.epa.gov/sites/production/files/2018-07/documents/cwisa_funding_table_fy18_update.pdf.

83 *See* Indian Health Service, Sanitation Deficiency System (SDS): A Guide for Reporting Sanitation Deficiencies for American Indian and Alaska Native Homes and Communities, Final Draft 6-18 (2018), https://www.ihs.gov/newsroom/includes/themes/responsive2017/display_objects/documents/2018_Letters/SDS2018FinalDraftforTribalConsultation.pdf.

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89 *See Historical Census of Housing Tables*, U.S. Census Bureau (last updated Oct. 31, 2011), https://www.census.gov/hhes/www/housing/census/historic/sewage.html; *see also* Bureau of the Census, Detailed Housing Characteristics: Alabama (1990), https://www.census.gov/prod/cen1990/ch2/ch-2-2.pdf.

90 *See* Detailed Housing Characteristics: Alabama, *supra* note 89, at 33.

91 *See Historical Census of Housing Tables*, *supra* note 89 ("Complete plumbing facilities are defined as hot and cold piped water, a bathtub or shower, and a flush toilet. In earlier censuses, these facilities must have been for exclusive use of a housing unit's inhabitants; this requirement was dropped in 1990.").

92 *See* Detailed Housing Characteristics: Alabama, *supra* note 89, at 30-33.

93 *See American Housing Survey - Table Creator*, U.S. Census Bureau, https://www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html#/NAV_1683946577_7?s_areas=a00000&s_year=n2015&s_tableName=Table4&s_byGroup1=a1&s_byGroup2=a1&s_filterGroup1=t1&s_filterGroup2=g1&s_show=S, year selected: 2015 (last visited Jan. 23, 2019).

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95 *Id*.

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[215] Jennifer S. Carrera & Catherine Coleman Flowers, *Sanitation Inequity and the Cumulative Effects of Racism in Colorblind Public Health Policies*, 77 Amer. J. Econ. & Soc. 941, 945 (2018).

[216] Alabama is an heir property state, which means that where no will exists, property is passed on to all living blood relations to own in common. Ala. Code § 43-8-41(2) (2018); Carrera & Flowers, *supra* note 215, at 949-52. This form of communal ownership is prevalent in Black Southern rural communities. *See generally* Janice F. Dyer & Conner Bailey, *A Place to Call Home: Cultural Understandings of Heir Property Among Rural African Americans*, 73 Rural Soc. 317 (2008). While the heir property system has promoted Black land ownership, it makes improvements to existing land challenging, as there is not always clear title, or a final decision-maker. *See* Carrera & Flowers, *supra* note 215, at 952 (One result of the system is "properties with numerous owners, with little knowledge of or connection to each other, unclear titles due to the number of owners of properties, and lack of ability to leverage land to make improvements on the land. Further, it caused insecurity around the land due to the fragile status of any improvements made on the land….. All of these effects together make any permanent costly structures like septic systems risky for land occupants and financial institutions, reducing the likelihood of their construction.").

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[224] *Id*.

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228 Carrera & Flowers, *supra* note 215, at 942.

229 2015 Report Card, *supra* note 226, at 60.

230 *See* Alston, *Statement on Visit to the USA*, *supra* note 1, ¶ 37.

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233 *Id.* at 14; Izenberg et al., *supra* note 67, at 202.

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Infections and Sanitation Failures Plague Rural Alabama, Circle Blue (Dec. 17, 2015), http://www.circleofblue.org/2015/water-quality/sanitation-health/hookworm-infections-and-sanitation-failures-plague-rural-alabama/. Between the completion of the lagoon expansion in 2013 and 2015, residents continued to deal with overflow from the lagoon during times of rain. As a result, residents perceived the funding as expanding a flawed system, rather than improving sanitation in the town. *Id.*

242 Dennis Pillion, *USDA to Offer $4 Billion in Loans for Rural Water, Waste Infrastructure*, AL.com (July 27, 2018), https://www.al.com/news/index.ssf/2018/07/usda_to_award_4_billion_in_gra.html.

243 *See supra* Section I.3.

244 *See* Lyndsey Gilpin, *The Rural South's Invisible Public Health Crisis*, Montgomery Advertiser (July 6, 2018), https://www.montgomeryadvertiser.com/story/news/local/alabama/2018/07/06/story-first-series-ways-communities-addressing-rise-poverty-related-tropical-diseases-poor-sewage/754311002/.

245 Ala. Admin. Code r. 420-3-1 §§ 02.(1), 03.(2) (2017). Alabama State Code makes it illegal to "build, maintain or use" a residential sanitation or wastewater system "that is or is likely to become a menace to the public health anywhere within the state." *See* Ala. Code § 22-26-1 (2017).

246 Carrera & Flowers, *supra* note 215, at 959.

247 *Id*. at 946-47.

248 *See* PBS News Hour, *supra* note 19.

249 Ala. Admin. Code r. 420-3-1 (2017).

250 *See id.* r. 420-3-1.03(6) ("Only treatment and disposal equipment that is appropriately permitted shall be used for an OSS"); *id.* r. 420-3-1.06(2) (ADPH issues product permits for OSS technology, require the applicant to show that the product "can operate within the range of conditions specified by ADPH"); *see also* Ala. Code § 22-26-2 (2016) ("The State Board of health and/or county boards of health . . . shall require every person, firm or corporation or municipal corporation, or agent thereof, owning or occupying property within the state, to install the type and number of sewage collection, treatment, and disposal facilities conforming to rules and regulations of the State Board of Health and/or county boards of health").

251 *See* Ala. Admin. Code r. 420-3-1.47(1) ("The LHD may investigate reports of a failing or an inadequate OSS. The LHD shall require the owner or responsible person to abate an unsanitary condition caused by a failing OSS or an unapproved sewage discharge by repairing or replacing the system or components of the system as required), 420-3-1-.02(2) ("It is the responsibility of the owner of an OSS to be familiar with what should not go into a system, to not take any action that would adversely impact the system, and to properly maintain it in accordance with the recommendations of the designer and/or manufacturer.").

252 Carrera, *supra* note 254, at 90-91; 94; 101; 114-131; *also* Jones & Moulton, *supra* note 14, at 14-21.

253 Ala. Code § 22-26-1 (2017) ("Insanitary sewage facilities menacing public health. It shall be unlawful and shall constitute a misdemeanor to build, maintain or use an insanitary sewage collection, treatment and disposal facility or one that is or is likely to become a menace to the public health anywhere within the state, including plumbing facilities, privies, septic tank systems, other private collection and disposal systems, sewer lines, public or private, municipal, community, subdivision or other treatment plant and disposal units, but excluding plumbing within structures located within the police jurisdiction of municipal corporations and regulated by the municipal corporation."); *See also* Jones & Moulton, *supra* note 14, at 12.

254 Jennifer Suzanne Carrera, Sanitation and Social Power in the United States (Sept. 16, 2014) (unpublished Ph.D. dissertation, University of Illinois at Urbana-Champaign) (manuscript at 101–08), https://www.ideals.illinois.edu/handle/2142/50688.

255 *See* Carrera & Flowers, *supra* note 215, at 956.

256 April Garon, *Church Protests Pastor's Arrest*, Troy Messenger (Sept. 29, 2014), http://www.troymessenger.com/2014/09/29/church-protests-pastors-arrest/.

257 Jones & Moulton, *supra* note 14, at 15.

258 Cleek, *supra* note 106.

259 Ala. Code § 22-2-14 (2017).

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270 Wedgworth & Brown, *supra* note 217, at 71.

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278 Inga Winkler, *The Human Right to Sanitation*, 37 U. Pa. J. Int'l L. 1331, 1353-1354 (2016); Amanda Klasing & Annerieke Smaak, *Going to the Toilet When You Want: Sanitation as a Human Right*, Human Rights Watch (Apr. 19, 2017), https://www.hrw.org/report/2017/04/19/going-toilet-when-you-want/sanitation-human-right.

279 G.A. Res. 70/169, The Human Rights to Safe Drinking Water and Sanitation, ¶ 2 (Dec. 17, 2015).

280 G.A. Res. 61/295, United Nations Declaration on the Rights of Indigenous Peoples, art. 21 (Sept. 13, 2007).

281 Winkler, *supra* note 278, at 1379; Anna Zimmer, Inga Winkler & Catarina de Albuquerque, *Governing Wastewater, Curbing pollution, and Improving Water Quality for the Realization of Human Rights*, 33 Waterlines 337, 341 (2014).

282 Léo Heller (Special Rapporteur on the Human Rights to Water and Sanitation), *Rep. to the UN General Assembly on Different Levels and Types of Services*, UN Doc. A/70/203, ¶ 60 (July 27, 2015).

283 G.A. Res. 217 (III) A, Universal Declaration of Human Rights, art. 25 (Dec. 10, 1948).

284 *See, e.g.*, *Human Rights Commitments and Pledges of the United States of America*, U.S. Mission Int'l Orgs. Geneva (Feb. 24, 2016), https://geneva.usmission.gov/2016/02/24/human-rights-commitments-and-pledges-of-the-united-states-of-america/ ("The United States commits to continuing to engage on, and support, economic, social, and cultural rights, including at the UN Human Rights Council, in the UN General Assembly and elsewhere, in terms consistent with human rights instruments we have accepted, including the Universal Declaration of Human Rights.").

285 *See, e.g.*, G.A. Res. 68/157, The Human Right to Safe Drinking Water and Sanitation (Feb. 12, 2014); Human Rights Council Res. 15/9, Human Rights and Access to Safe Drinking Water and Sanitation, U.N. Doc. A/HRC/RES/15/9 (Oct. 6, 2010).

286 *Announcement of U.S. Support for the United Nations Declaration on the Rights of Indigenous Peoples*, U.S. Dep't of State (Jan. 12, 2011), https://2009-2017.state.gov/s/srgia/154553.htm.

287 *Addendum of the United States of America to the Report of the Working Group on Its Universal Periodic Review*, U.S. Mission Int'l Orgs. Geneva (Aug. 31, 2015), https://geneva.usmission.gov/2015/09/01/addendum-of-the-united-states-of-america-to-the-report-of-the-working-group-on-its-universal-periodic-review/ (last updated Sept. 16, 2015) [hereinafter *U.S. Addendum to the UPR Report*]. In the explanation of position to the 2014 resolution, the US delegate explained: "The United States joins consensus with the express understanding that it does not imply that States must implement obligations under human rights instruments to which they are not a party. The United States is not a party to the International Covenant on Economic, Social, and Cultural Rights (ICESCR), and the rights contained therein are not justiciable in U.S. courts." *See Explanation of Position: The Human Right to Safe Drinking Water and Sanitation Resolution, Statement of the Delegation of the United States of America to the U.N. Human Rights Council*, U.S. Mission Int'l Orgs. Geneva (Sept. 25, 2014), https://geneva.usmission.gov/2014/09/25/explanation-of-position-the-human-right-to-safe-drinking-water-and-sanitation/. For more details on the US position regarding sanitation, see Winkler & Flowers, *supra* note 8, at 201-06.

288 *U.S. Addendum to the UPR Report*, *supra* note 287.

289 Convention Against Torture, and Other Cruel, Inhuman or Degrading Treatment or Punishment, *adopted* Dec. 10, 1984, 1465 U.N.T.S. 85 (entered into force June 26, 1987).

Lack of access to sanitation may amount to inhuman and degrading treatment, which is prohibited under Art. 16 of the Convention Against Torture. *See de Albuquerque US Mission Report*, *supra* note 15, ¶ 58.

290 *See* International Covenant on Civil and Political Rights art. 6-7, *adopted* Dec. 16, 1966, 999 U.N.T.S. 171 (entered into force Mar. 23, 1976) [hereinafter ICCPR].

291 ICERD, *supra* note 22.

292 In addition to ICERD, the ICCPR also includes a broad provision on non-discrimination and equality. Article 26 reads: "All persons are equal before the law and are entitled without any discrimination to the equal protection of the law. In this respect, the law shall prohibit any discrimination and guarantee to all persons equal and effective protection against discrimination on any ground such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status." ICCPR, *supra* note 290, at 179.

293 ICERD, *supra* note 22, art. 2, 5. The United States ratified ICERD in 1994.

294 *Id.* art. 1.

295 *Id.*

296 *See id.* art. 1, ¶ 4; Comm. on the Elimination of Racial Discrimination, General Recommendation 32, ¶¶ 7-8, 12, U.N. Doc. CERD/C/GC/32 (Sept. 24, 2009) [hereinafter CERD, General Recommendation No. 32].

297 *See* CERD, General Recommendation No. 32, *supra* note 296, ¶ 6; Winkler & Flowers, *supra* note 287, at 208.

298 ICERD, *supra* note 23, art. 2(2); CERD, General Recommendation No. 32, *supra* note 296, ¶ 11.

299 Comm. on the Elimination of Racial Discrimination, General Recommendation 25, ¶ 6, U.N. Doc CERD/C/365/Rev.1, at 20, 21 (Mar. 20, 2000); Comm. on the Elimination of Racial Discrimination, Concluding Observations on the Combined Twenty-First to Twenty-Third Periodic Reports of the United Kingdom of Great Britain and Northern Ireland, ¶ 14, CERD/C/GBR/CO/21-23 (Oct. 3, 2016).

300 *See* Catarina de Albuquerque (Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation), *Human Right to Safe Drinking Water and Sanitation: Note by the Secretary-General*, ¶¶ 18-26, 87-88, U.N. Doc. A/69/213 (July 31, 2014); *see also de Albuquerque* US *Mission Report*, *supra* note 15, ¶ 6.

301 *Goal 6: Ensure Sustainability and Sustainable Management of Water and Sanitation for All*, United Nations Dep't Econ. & Soc. Aff. Stat. Division, https://unstats.un.org/sdgs/report/2017/goal-06/ (last visited Feb, 10, 2019).

302 *Sustainable Development Goal 6*, Sustainable Dev. Goals Knowledge Platform, Progress & Info (2017), https://sustainabledevelopment.un.org/sdg6 (last visited Feb. 10, 2019).

303 ICERD, *supra* note 22, art. 5(c). Other treaties seek to guarantee the same right. The one to which the United States is also a party to is the International Covenant on Civil and Political Rights. ICCPR, *supra* note 290, art 26. The right to political participation is included in a number of additional human rights treaties.

304 *See* Comm. on the Elimination of Racial Discrimination, Concluding Observations of the Committee on the Elimination of Racial Discrimination: Guatemala, ¶ 10, U.N. Doc. CERD/C/GTM/CO/12-13 (May 19, 2010); Comm. on the Elimination of Racial Discrimination, Concluding Observations on the Combined Fourth to Sixth Periodic Reports of Paraguay, ¶¶ 27–28, U.N. Doc. CERD/C/PRY/CO/4-6 (Oct. 4, 2016).

305 Magdalena Sepúlveda Carmona (Special Rapporteur on Extreme Poverty and Human Rights), *Rep. of the Special Rapporteur on Extreme Poverty and human rights, Magdalena Sepúlveda Carmona*, ¶¶ 14-19, U.N. Doc. A/HRC/23/36 (Mar. 11, 2013).

306 See *supra* Section II.1

307 *See generally* Celestine Nyamu Musembi, *How Participation as a Right Enhances Realization of the Rights to Water and Sanitation* 33 Waterlines 318-336 (2014).

308 *See* G.A. Res. 64/292, *supra* note 20. *See* Report of the Working Group on the Universal Periodic Review, *United States of America*, ¶ 176.311-.312, UN Doc. A/HRC/30/12 (July 20, 2015).

309 These recommendations have been made as part of the UN Universal Periodic Review Process at the U.N. Human Rights Council. *See UPR Recommendations for Working Group 3: Economic, Social, and Cultural Rights, Indigenous Issues; and the Environment*, U.S. Dep't of State (Dec. 21, 2016), https://www.state.gov/j/drl/upr/2015/272821.htm

310 *de Albuquerque US Mission Report*, *supra* note 15, (recommendations b, c, and h).

311 Working Group of Experts on People of African Descent, *Report on Mission to the United States of America*, ¶¶ 43-55, U.N. Doc A/HRC/33/61/Add.2 (August 18, 2016).

312 *Id.,* ¶ 120.

313 *Alston Mission Report*, supra note 8, ¶ 69; Alston, *Statement on Visit to the USA*, *supra* note 1.

314 *Alston Mission Report*, supra note 8, ¶¶ 71-72.

315 Comm. on the Elimination of Racial Discrimination, Concluding Observations on the United States of America, ¶¶ 380-407, U.N. Doc. A/56/18 (Aug. 13, 2001); *see also* Committee on the Elimination of Racial Discrimination, General Recommendation 14, U.N. Doc A/48/18, at 115 (Mar. 17, 1993).

316 Comm. on the Elimination of Racial Discrimination, Concluding Observation on the Combined Seventh to Ninth Periodic Reports of the United States of America, ¶¶ 6, 8, 12, 14, 16, 20, CERD/C/USA/CO/7-9 (Aug. 26, 2014).

317 *Id.* ¶ 10.

318 *Id.* ¶ 13.

319 *Id.* ¶¶ 10, 13.

320 *Id.* ¶ 12.

321 A complete set of recommendations are provided at the start of this report.


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