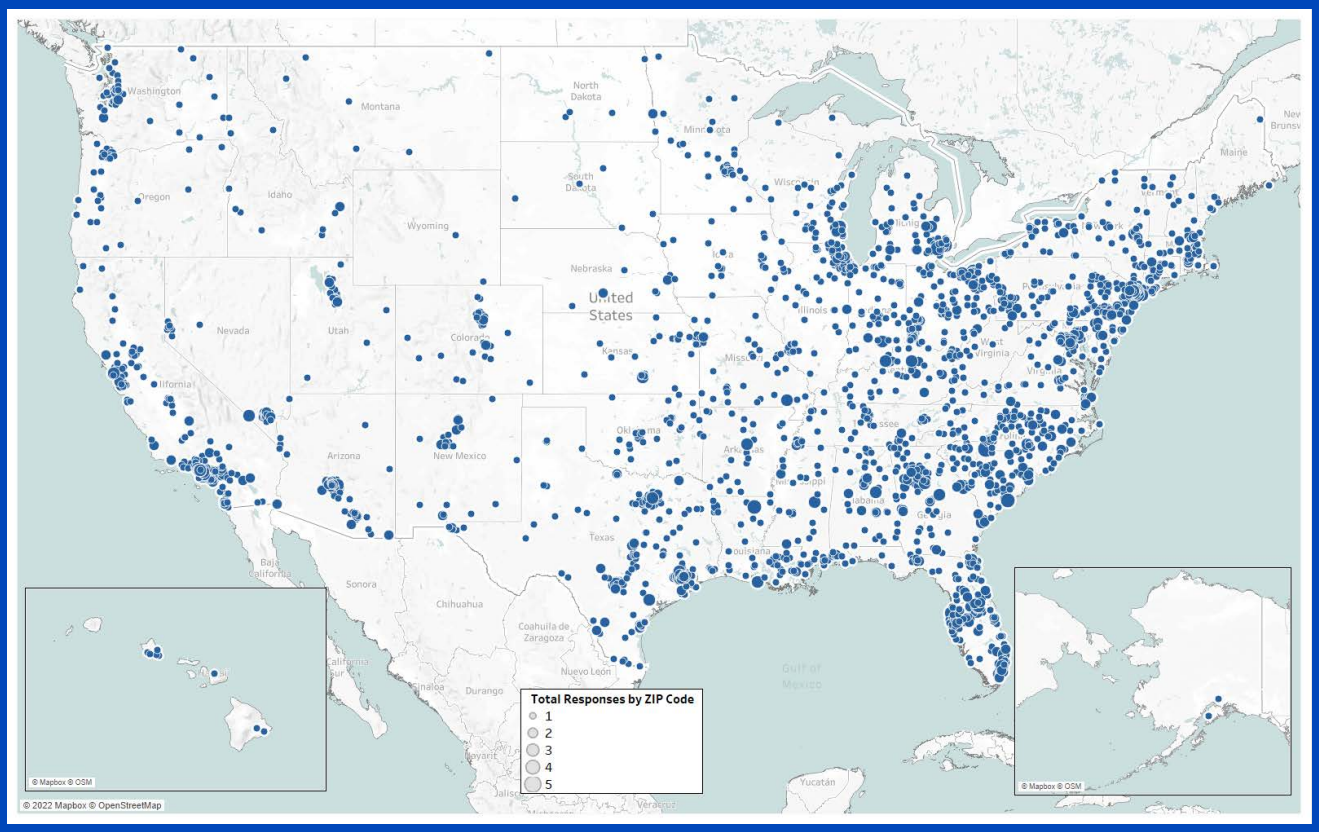

Understanding Disenfranchised and Underserved Communities in the U.S.

A Literature Review

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CLEAN AIR TASK FORCE

CLIMATE EQUITY INITIATIVE

Table of Contents

Cover image credit: map of survey respondents by location, *Perspectives from Environmental Justice Communities: A National Survey*. A Joint Report by BW Research Partnership and the Climate Equity Initiative, Sponsored by Clean Air Task Force, July 2023

Trucks, Ironbound Community, Newark, NJ

Abstract

To build a truly modern, just, and decarbonized economy, it is important to adopt a cooperative cross-sectorial approach to climate action dialogue that recognizes and engages with the crucial role and interests of disenfranchised communities. It is essential to note that the following insights provide an overview, offering a glimpse into the multidimensional challenges faced by these communities and the social, economic, and cultural perspectives that shape their involvement. This understanding, while valuable, is not exhaustive and does not represent the entirety of their experiences. Rather, it serves as a foundational framework that informs future efforts, highlighting the complexity of the issue at hand and emphasizing the need for continuous exploration and engagement with these communities.

This paper provides a broad overview of the challenges facing disenfranchised and underserved communities today, reflecting upon the compounding effects of inequity and the multifaceted nature of environmental risk. While it is important to engage each community with regard to their unique challenges and history, this analysis demonstrates that the most salient issues facing disenfranchised and underserved populations today are those which threaten health, economic wellbeing, and overall prosperity. Any efforts to move towards a just, decarbonized economy must account for the real concerns of disenfranchised and underserved communities.

About

The Climate Equity Initiative

Clean Air Task Force (CATF) launched the *Climate Equity Initiative* in May 2021 to conduct research and analysis, and to work with environmental justice leaders, advocates, and community residents to:

- Identify barriers, challenges, and potential opportunities in environmental justice communities;
- Advocate changes and adoption of solutions to systemic barriers and challenges that create and perpetuate environmental injustice, particularly in the context of environmental and climate policies and practices; and
- Ensure that CATF has a clear-sighted understanding of the needs and concerns of environmental justice communities, particularly those most directly impacted by the energy transition currently underway in the United States, and, with their input, develop tools and initiatives to help ensure they have a powerful voice at the table in that transition to a clean energy future.

Too often, proposed climate solutions are developed outside impacted communities and fail to respect the core needs of their residents. As a result, policies, programs, and community engagement initiatives can lack critical success elements, resulting in failed climate-beneficial projects, or perpetuating injustice and inequality. CATF rejects the notion that such failures are inevitable. CATF recognizes that responses to environmental degradation and climate change must consciously employ strategies that to the maximum possible extent not only benefit the climate but also promote environmental justice and community economic development.

Clean Air Task Force

CATF is a global nonprofit organization working to safeguard against the worst impacts of climate change by catalyzing the rapid development and deployment of low-carbon energy and other climate-protecting technologies. With over 25 years of internationally recognized expertise on climate policy, science, and law, and a commitment to exploring all potential solutions, CATF is a pragmatic, non-ideological advocacy group focused on climate change and the clean energy transition. CATF has offices in Boston, Washington, D.C., and Brussels, with staff working remotely around the world.

Key Takeaways

- **The lack of consensus around the criteria that define what is a "disenfranchised and underserved community" can cause confusion when allocating federal or state funds where they are most needed.** Legislative efforts to identify criteria associated with disenfranchisement often fall short due to the complex and unique experiences of different populations. This complexity stems from the multifaceted nature of disenfranchisement, which can vary significantly even within a single state. Unique factors like economic decline, environmental pollution, racial disparities, and industry decline impact communities differently. As such, efforts to create a one-size-fits-all definition of "disenfranchised" often overlook these intricacies.

- **Disenfranchisement is largely driven by historical context.** Areas where there has been a long history of racial oppression and environmental exploitation are most likely to experience "deep disadvantage."

- **Seven key characteristic vulnerabilities** affecting disenfranchised and underserved communities include health disparities, poverty, low educational attainment, poor physical and broadband infrastructure, housing insecurity, exposure to environmental harms, and lack of political voice.

- **Vulnerabilities are complex, interrelated, and inherently compounding.** It may seem obvious, for instance, to acknowledge the impacts of educational attainment on poverty levels or of housing security on health outcomes. That said, jurisdictional barriers limit the ability of policymakers to address this complexity. Too often policies directed toward advancing economic development fail to address educational deficiencies in a community, while programs oriented towards improving health outcomes fall short of acknowledging the impacts of housing insecurity on community health. Often, if not always, economic development, education, health, and housing policies fall into separate legislative and agency jurisdictions. To make significant strides toward meeting the needs of underserved communities nationwide, policymakers need to take an integrated approach to understanding inequity and how structures of inequality are self-reinforcing.

- **Many subpopulations experience unique vulnerabilities as a result of their position in society.** For example, LGBTQ+ individuals, the elderly, minors, people with disabilities, the unemployed, the incarcerated, immigrants, the homeless, those struggling with mental health or substance use disorders, sex workers, veterans, and some ethnic and religious minority groups living in underserved communities can be considered doubly or triply vulnerable. When these social vulnerabilities intersect with other forms of disenfranchisement, for instance for communities of color or tribal and rural communities, these individuals experience "multi-faceted vulnerability." The literature also refers to such communities as "doubly vulnerable" due to two or more factors that can diminish their autonomy or social capital. As the silenced, ignored, tabooed, and marginalized in society, the "doubly vulnerable" not only face greater obstacles in society but must fight much harder to be recognized and defended.

- **Historical exploitation and enduring power disparities perpetuated by governments and industries have resulted in many disenfranchised and underserved communities becoming mistrustful of outside influences.** This legacy of exploitation and power disparity significantly influences interactions between communities and those who wish to engage with them in pursuit of a clean energy transition. It is essential for clean energy proponents and companies to recognize historical power dynamics at play, and to engage/work with communities to achieve a mutually beneficial outcome.

Ironbound Community, Newark, NJ

SECTION 1

Introduction

This paper examines the challenges and priorities of disenfranchised and underserved communities across the United States. Too often, proposed solutions for underserved communities are developed without community input. Instead, when discussing these communities, it is important to consider the specific inequities which make them susceptible to harm. Specifically, this paper explores the vulnerabilities facing communities of color, rural communities, tribal communities, and low-income communities to provide context for dialogue between underserved communities and proponents of the clean energy transition.

It is important to note that, while this paper discusses disenfranchised and underserved communities in broad terms, the lived experiences of those within these communities are not homogeneous. For instance, the challenges facing a remote tribal community in Oglala Lakota County, South Dakota will not be the same as those of low-income rural communities in Clairborne County, Mississippi.[a] To understand the complexity of the socioeconomic and environmental vulnerabilities of these communities, it is important to consider them within the specific historical, political, and social context of the geographic region where the community is located.

The heterogeneity of vulnerable communities can make it difficult to define what makes a community "disenfranchised" and/or "underserved." Policymakers often grapple with this question, especially as the lack of consensus around the defining criteria for a disenfranchised and underserved community can cause confusion when allocating federal or state funds where they are most needed. The complexity arises from the multifaceted nature of disenfranchisement, which can differ drastically even within a single state. Factors such as economic decline, environmental pollution, racial disparities, or the decline of specific industries, affect communities in unique ways. Attempting to create a

[a] Oglala Lakota County, South Dakota ranks number one and Clairborne County, Mississippi ranks number three on the Index of Deep Disadvantage published by the University of Michigan's Poverty Solutions Initiative and Princeton University's Center for Research on Child Wellbeing. Shaefer, H. L.,
Edin, K., & Nelson, T. (2020). Understanding Communities of Deep Disadvantage: An Introduction. Poverty Solutions, 1-9.
https://doi.org/http://sites.fordschool.umich.edu/poverty2021/files/2021/03/Communities-of-Deep-Disadvantage-introduction-1-29-20-2.pdf.

one-size-fits-all definition of “disenfranchised” often overlooks these intricacies, leaving certain marginalized communities without the support they require. The difficulty lies not only in defining what constitutes a disadvantaged community but also in ensuring that the criteria of what constitutes a disadvantaged community encompasses the nuanced challenges faced by different regions and demographics.

Legislative efforts to identify criteria associated with disenfranchisement often fall short due to the complex and unique experiences of different populations within a state. For instance, when the Biden administration introduced the Justice40 initiative and identified 23,410 census tracts as "disadvantaged" to receive 40 percent of the program's benefits, numerous community leaders and environmental advocacy groups criticized the program for omitting communities they believed deserved this designation.[1]

The Alaska Municipal League, for example, expressed concerns that the initiative did not sufficiently consider the unique issues confronting Alaskans. While agricultural land loss, a less pressing matter in Alaska, was taken into account, the program overlooked a significant issue facing the state: rising temperatures causing once-frozen landscapes to melt. In Arctic and subarctic regions of Alaska, critical infrastructure, including schools, homes, roads, are sinking into liquefying earth due to this phenomenon, a problem not accounted for in the Justice40 initiative. As such, the Alaska Municipal League called upon the Biden administration to make considerations for the unique disadvantage facing Alaskan communities.[2] This situation highlights the necessity for legislation which aims to define criteria for disenfranchisement to embrace the diverse and intricate realities of disenfranchised communities, emphasizing the need for a comprehensive, intersectional approach to genuinely meet their needs.

Recent scientific efforts have made strides toward understanding what disenfranchisement looks like and how it is geographically dispersed across the United States. A team of researchers from the University of Michigan and Princeton University developed the Index of Deep Disadvantage[b] (IDD) to investigate the complex disparities which contribute to disadvantage at the community level.[3] The IDD takes a holistic approach, looking beyond individual poverty metrics to understand other dimensions of “disadvantage.” Researchers drew upon county and city-level data to examine income (using poverty and deep poverty[c] rates), health (using life expectancy and low birth weight), and social mobility (using new social mobility estimates for counties and cities).[4] These metrics can be applied to communities across the country and have allowed researchers to rank communities on a continuum accordingly.

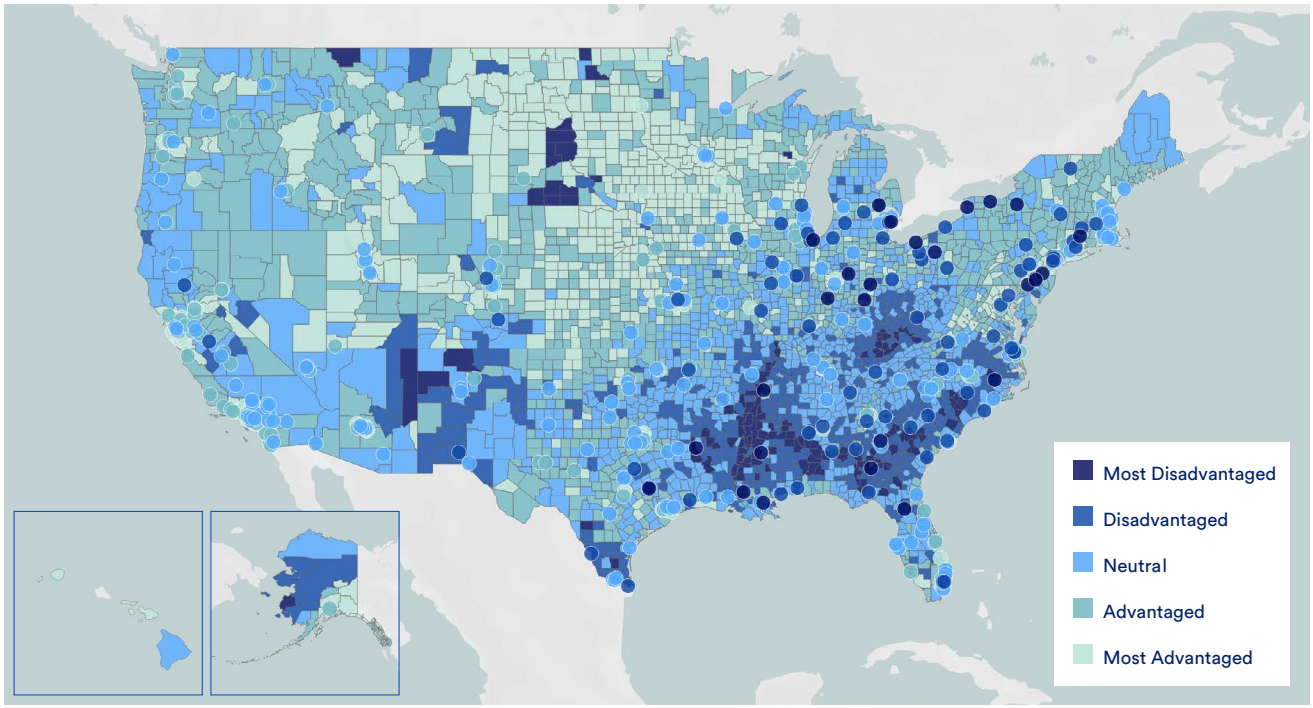
[b] The term “disadvantaged” is increasingly rejected as it connotes inherent deficits within communities or community members and fails to recognize the institutional failures which result in the community experiencing relative disadvantage. In this paper, the term “disadvantaged” will be used only when referring to the terminology of other literature. Otherwise, this paper will use the phrase “disenfranchised and underserved.” Jennifer S. Vey, H. L., Hanna Love, J. S. V., Ray, R., Pipa, A. F., & Anthony F. Pipa, L. L. (2022, March 9). Recognizing that words have the power to harm, we commit to using more just language to describe places. Brookings. https://www.brookings.edu/articles/recognizing-that-words-have-the-power-to-harm-we-commit-to-using-more-just-language-to-describe-places/.

[c] The U.S. Census Bureau defines “deep poverty” as living in a household with a total cash income below 50 percent of its poverty threshold. https://poverty.ucdavis.edu/faq/what-deep-poverty.

Figure 1: Multidimensional Index of Deep Disadvantage

The Multidimensional Index of Deep Disadvantage was developed utilizing a multidimensional measure of disadvantage. Shown in the darkest shades of blue, a mapping of this index indicates that rural counties and regions where there has been a history of racial oppression are more likely to be disadvantaged.[5]

Available at: https://tableau.dsc.umich.edu/t/UM-Public/views/IndexofDeepDisadvantage_CountiesCitiesMap?%3AisGuestRedirectFromVizportal=y&%3Aembed=y.



The map shown here reports the disadvantage level of 500 major cities and every county in the United States. Several valuable insights emerge from this mapping. First, there are five clear geographic clusters of "deep disadvantage": the Mississippi Delta, the Cotton Belt, Appalachia, the Texas/Mexico border, and a small cluster of Rust Belt cities (notably Flint, Detroit, Gary, and Cleveland).[6] Many of the Native Nations also score high for disadvantage on the index, particularly in the Dakotas, Nebraska, Arizona, and New Mexico.

This mapping demonstrates that rural counties are much more likely to be disadvantaged. Of the top 100 most disadvantaged communities, 80 are rural, including 19 rural Mississippi counties.[7] Only 9 of the 500 largest cities in the United States fall within the 'most disadvantaged' category. Researchers H. Luke Shaefer, Kathryn Edin, and Timothy Nelson note the significance of this finding particularly because most of these rural locales have never been a focus of research for poverty scholars.[8] Since understanding of disenfranchisement in the United States is limited to what scholarly work has been conducted on the topic, the scope of the current conception of disenfranchisement has been skewed away from recognizing the prevalence of rural areas.

The Index of Deep Disadvantage also demonstrates that disenfranchisement is largely driven by historical context. Areas where there has been a long history of racial oppression and environmental exploitation are most likely to experience "deep disadvantage".[9] Shaefer, Edin, and Nelson found that their index map was strikingly similar to a historical map of the concentration of enslavement from the 1860 census.[10] Similarly, 21 of the 100 most disenfranchised and underserved places are tribal lands where the historical oppression of Indigenous communities was most concentrated.[11] This finding is significant as it highlights the importance of historical and contextual understanding when evaluating the needs of a community.

This paper builds upon the work of the Index of Deep Disadvantage to explore current literature on the challenges facing disenfranchised and underserved communities across the United States today. By highlighting the characteristics and needs of communities of color, rural communities, tribal communities, and low-income communities nationwide, this analysis aims to provide valuable context for discussions between disenfranchised and underserved communities and proponents of the clean energy transition, including the importance of effectively engaging with communities and identifying benefits and opportunities for addressing their needs. Drawing on the most recent studies conducted by academics and policy thought leaders, this literature review discusses social and economic vulnerabilities characteristic of disenfranchised communities, noting, in particular, the compounded effects of inequity.

Shell facility in St. Charles Parish, Louisiana

SECTION 2

Seven Key Characteristics of Disenfranchisement

Though the experiences of disenfranchised and underserved communities are diverse, several shared vulnerabilities stem from and contribute to disenfranchisement nationwide. Presented below are seven key characteristic vulnerabilities which affect disenfranchised and underserved communities: health disparities, poverty, low educational attainment, poor physical and broadband infrastructure, housing insecurity, exposure to environmental harms, and lack of political voice.[d]

1. Health Disparities

There are huge health disparities for those living in disenfranchised and underserved communities. The Index of Deep Disadvantage reports that people living in the most disadvantaged areas report a life expectancy of 72 years versus the 82 years reported in the most advantaged areas.[12] In other words, those in disenfranchised communities are likely to die 10 years earlier than those living in advantaged areas. Increased risks of coronary heart disease, hypertension, stroke, obesity, diabetes, respiratory diseases, cancers, substance abuse, HIV/AIDS, disability, dental diseases, and chronic kidney diseases are associated with chronic poverty, another key characteristic of vulnerability.[13]

The COVID-19 pandemic further exacerbated health disparities, particularly for low-income communities of color. The Centers for Disease Control and Prevention reported national data on confirmed COVID-19 cases by race and ethnicity, illustrating that the virus has had disproportionate impacts on communities of color.[14] Native American and Black communities experienced rates of hospitalization or death from COVID-19 more than 5 times that of their white counterparts.[15] The disproportionate impact of the pandemic on communities of color and tribal communities is the latest example of the stark disparity in health outcomes for underserved groups. Researchers attribute this gap to

[d] This list was developed based on a review of the most current literature. See Bibliography for references. The list is intended to be illustrative and is not necessarily exhaustive or definitive.

a variety of determinants such as discrimination, lack of access to healthcare, poverty, occupational setting, exposure to air pollution, and housing.[16]

2. Poverty

Health disparities are closely connected to a second vulnerability shared by disenfranchised and underserved communities in the United States: poverty. According to the Index for Deep Disadvantage, the average poverty rate of the 100 most disadvantaged communities (34.8 percent) is more than four times higher than the poverty rate among the 100 most advantaged communities (7.3 percent).[17] A study done by Northwestern University found that one-third of Native Americans are living in poverty with a median income of $23,000 per year, and 20 percent of households reportedly make less than $5,000 a year.[18] Confirming the findings of the Index of Deep Disadvantage, a recent study conducted by the University of Wisconsin-Madison found that rural poverty is 3 percent higher than urban poverty with high-poverty counties concentrated in Appalachia, tribal lands, the Southern "Black Belt," the Mississippi Delta, and the Rio Grande Valley.[19]

Both urban and rural communities of color experience poverty at higher rates than white Americans.[20] The above figure demonstrates how, despite continuous decreases in the poverty rate in the country in recent decades, Black and Hispanic communities continue to be disproportionately represented in the population in poverty relative to their representation in the overall population.[21]

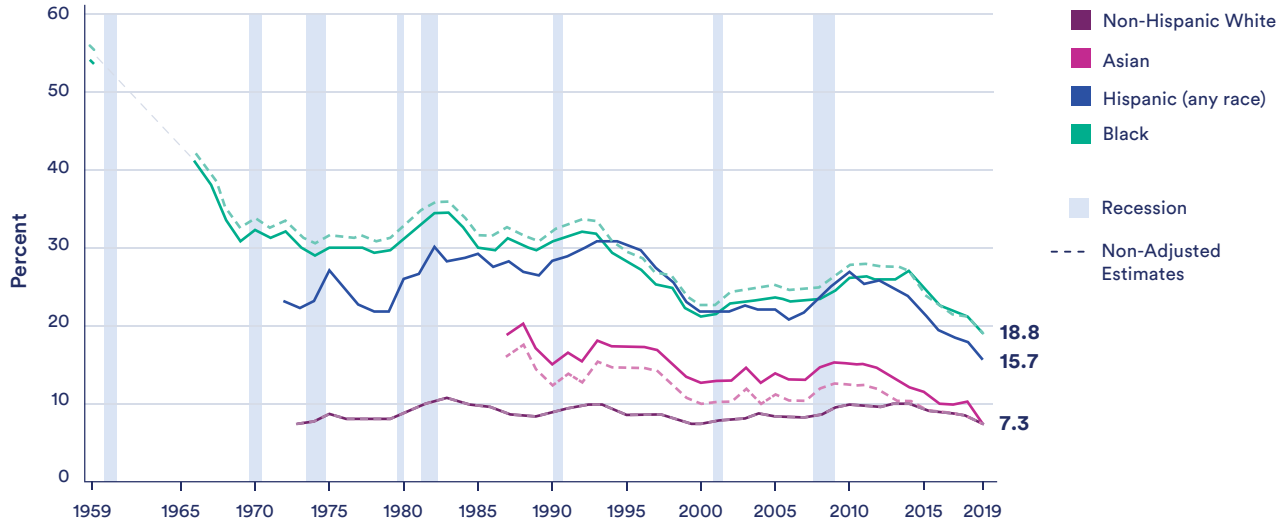
3. Low Educational Attainment

Closely tied to the rate of poverty, a third vulnerability shared by disenfranchised and underserved communities is low educational attainment. The most recent publication by the U.S. Department of Education on the Status and Trends in the Education of Racial and Ethnic Groups confirms the well-documented disparities in educational participation and attainment among communities of color and ethnic minorities when compared to their white counterparts.[22] The COVID-19 pandemic and the resulting school shutdowns amplified these existing racial disparities, particularly for Black, Native American, and Hispanic students. As schools turned to e-learning solutions throughout 2020 and

Figure 2: Poverty Rate by Race and Hispanic Origin: 1959 to 2019

Though recent decades have seen the overall poverty rate decrease, inequalities nevertheless persist for Black and Hispanic census respondents.

Source: United States Census Bureau 2019. Available at https://www.census.gov/library/stories/2020/09/poverty-rates-for-blacks-and-hispanics-reached-historic-lows-in-2019.html



2021, Black and Hispanic households with school-aged children were 1.3 to 1.4 times more likely to have limited access to a computer or the internet.[23] As a result, learning loss across the pandemic was greatest among low-income communities of color.

The disparity in educational attainment between indigenous and Native American communities and their white counterparts is well-documented. The U.S Department of Education reports the highest school dropout rates from Pacific Islander and American Indian/ Alaska Native communities.[24] A study conducted in Todd County, South Dakota (which is 84.5 percent American Indian and Alaska Native alone, according to the most recent US Census and ranked second on the Index of Deep Disadvantage) found that only 1 in 5 local elementary students can read at grade level, while only 1 in 50 is proficient in math.[25] Many of these Native students are among the more than 9.3 million children attending schools in rural areas.[26]

Rural schools face a unique set of challenges due to their remoteness. With a higher likelihood of being in impoverished counties, rural schools face the challenge of attracting talented teachers and school administrators. Similarly, rural areas are often disconnected from the social service and volunteer organizations which provide supplemental educational services to students in urban and suburban areas. Both broadband and infrastructural challenges pose a challenge to both online and in-person learning.[27]

4. Poor Physical and Broadband Infrastructure

This brings to the fore the fourth vulnerability shared among disenfranchised and underserved communities: poor physical and broadband infrastructure. Public infrastructure—including roads, electrical grids, airports, telecommunication networks, railways, waterways, and ports—is a vital driver of the U.S. economy. However, the nation's infrastructure is severely lacking, having received a C- grade from the American Society of Civil Engineers in 2021.[28] The shortcomings of the infrastructural system are felt most acutely by low-income communities and communities of color where decades of infrastructure policy decisions have been affected by racial bias and discrimination and made with little regard for community needs.

Figure 3: Crumbling Infrastructure and Closed Bridges in Mississippi's Poorest Counties

A bridge closure near the Western Hills neighborhood in Jackson. Closures like this one mean some residents face longer commute times.

Source: Brandon Thibodeaux for NBC News. (2018.) *In Mississippi, closed bridges and crumbling infrastructure threaten lives and livelihoods.* *https://www.nbcnews.com/news/us-news/mississippi-closed-bridges-crumbling-infrastructure-threaten-lives-livelihoods-n892571*

For example, in Mississippi, many rural Black communities face extreme infrastructural challenges. A 2017 report found that the number of county bridges closed out of concern for public safety had increased by 100 percent in a year, while 46 percent of the county roadways were deemed in poor or very poor condition and 76 percent of all roads were recorded as needing maintenance.[29] In Jackson, Mississippi – where 80 percent of the residents are Black – the city has not made much-needed repairs to the city infrastructure due to a decline in public funds allocated to infrastructure repairs which reportedly began as far back as the 1970s when white Mississippians left the city *en masse* following the racial integration of the public school system.[30] Today, however, this inability to invest in public infrastructure results in serious health and safety issues. For over a month in 2021, all homes in Jackson lost access to potable water due to a breakdown in the capital city's water system. This breakdown in public infrastructure in a majority-Black county reflects the broader issue of failing infrastructure for disenfranchised communities.

Tribal areas face an even more stark reality when it comes to physical infrastructure. Dilapidated roads, neglected waterways, and a lack of access to the electrical grid pose a challenge to the social and economic wellbeing of tribal communities living on tribal lands. In the Navajo Nation spread across New Mexico, Utah, and Arizona, approximately 75 percent of the roads on the reservation are either dirt or gravel.[31] With a rise in severe storms in recent years, these roads are increasingly ill-equipped to meet the transportation needs of tribal communities. Additionally, almost 30 percent of homes on the Navajo reservation do not have in-home access to electricity or running water.[32] This limited access means tribal communities do not have the same options for indoor plumbing, reliable lighting, modern heating and cooling, and appliances.

Similarly, the "broadband divide" leaves many living in low-income, rural, and tribal communities without access to broadband infrastructure and the internet. Today, the most underserved counties across the United States have severely limited access to broadband internet and cellphone service. A 2019 assessment conducted by the American Indian Policy Institute at Arizona State University found that 18 percent of homes in tribal areas have no internet access and 25 percent do not have landline phones.[33] Communities of color also are reported to have significantly less access to home internet service than their white counterparts. A 2019 Pew report found that while 80 percent of white adults report having a broadband connection at home, only 71percent of Black adults and 65 percent of Hispanic adults report the same.[34] This is another inequity brought into sharp relief by the COVID-19 pandemic as many workplaces turned to remote, internet-reliant working models. Reports have found that those without access to in-home internet services faced the greatest obstacles in obtaining information about pandemic risks, local virus prevalence, and necessary health precautions.

5. Housing Insecurity

The fifth vulnerability common to disenfranchised communities is housing insecurity. Even before the economic downturn brought on by the COVID-19 pandemic, millions of Americans struggled to pay rent each month. Renters of color are particularly burdened by the costs of renting as many are required to allocate at least 30 percent to 50 percent of household income towards rent.[36] Moreover, neighborhoods with more racial diversity experience higher rates of eviction.[37] And households of color are more likely to experience eviction or the threat of eviction when living in predominantly white communities, as was revealed by a Milwaukee Area Renters Study which found that Hispanic renters in predominantly white neighborhoods are twice as likely to be evicted as Hispanic renters in neighborhoods that are not predominantly white.[38]

Though homelessness is often thought to be a problem only in urban centers, it has become an increasingly prevalent issue in rural areas. According to a poll conducted by the Harvard T.H. Chan School of Public Health among rural communities, over one-third of rural residents report homelessness as a problem in their local community.[39] The housing crisis also impacts tribal communities for whom housing insecurity more often takes the shape of overcrowding. A recent study from the Housing Assistance Council reports that approximately 9 percent of tribal populations live with overcrowding compared to the national average of 3 percent.[40] Moreover, Native American reservations and allotted lands face a reported deficit of approximately 68,000 housing units per year, though the actual need is projected to be triple that.[41]

6. Exposure to Environmental Harms

A sixth vulnerability commonly shared by disenfranchised communities is exposure to environmental harm. It is well-documented that low-income people and communities of color are disproportionately exposed to poor air and water quality, toxic waste, lead poisoning, and environmental disturbances. One 2016 study from

researchers at the University of Michigan and the University of Montana analyzed 30 years of demographic data about the placement of U.S. hazardous waste facilities and found a consistent pattern of over three decades of hazardous waste facilities being placed in neighborhoods where poor people and people of color live.[42] These communities are further affected by these environmental harms because they often lack the political power to successfully advocate for change in their communities.

A recent U.S. Environmental Protection Agency (EPA) analysis found that Black and African American individuals are projected to be more severely impacted by climate change than average Americans. Black and African American individuals are 34 percent more likely to live in areas with the highest projected increases in childhood asthmas, and 40 percent.[43] Today, more than one million Black and African Americans face a cancer risk "[44]African Americans are also 75 percent more likely than their white counterparts to live in a "fence-line" community—namely, one that is near an industrial facility that produces noise, odor, traffic, or air or water.[45,46]

Nearly 50 percent of Hispanic communities are located in counties that violate standards for ground-level ozone.[47] Similarly, Hispanic communities are 43 percent more likely to currently live in areas with the highest projected reductions in labor hours due to extreme temperatures and 50 percent more likely to currently live in areas with the highest estimated increases in traffic delays due to increases in coastal flooding.[48] A survey conducted by Pew Research found that more Hispanics than non-Hispanics say that they view certain environmental issues, including exposure to garbage and waste, pollution of fresh water and drinking water, and air pollution, as problems in their communities.[49]

Native American reservations have historically been targeted as places to dump industrial waste and other pollutants, leading to the pollution of land, water, and air near tribal communities.[50] Today, the impacts of climate change are affecting tribal communities significantly, from coastal erosion and storms diminishing the tribal lands of the Pacific Northwest to severe droughts and crop shortages on Navajo lands in the Southwest and on Cherokee lands at the edge of the Ozarks.[51] These environmental impacts threaten to cause food and water shortages in the short-term and to disconnect tribal communities from their land in the long-term.

Ultimately, it is understood that the most severe harms from climate change and pollution fall disproportionately on disenfranchised and underserved communities. As EPA Administrator Michael S. Regan describes, "the impacts of climate change that we are feeling today, from extreme heat to flooding to severe storms, are expected to get worse, and people least able to prepare and cope are disproportionately exposed".[52] Recognizing the day-to-day impacts of climate change and environmental exposure felt by disenfranchised and underserved communities is crucial to understanding their lived experience.

7. Lack of Political Voice

This leads to the seventh identified shared vulnerability of disenfranchised and underserved communities: lack of political voice. Political voice is understood as any activity undertaken by an individual with "the intent or effect of influencing government action—either directly by affecting the making or implementation of public policy or indirectly by influencing the selection of people who make those policies".[53] Different ways of exerting one's political voice include voting, holding organized protests or demonstrations, participating in public fora, lobbying, or engaging in direct political advocacy.

Today, a variety of structural and political barriers exist that bar individuals in low-income communities, tribal communities, and communities of color from fully exerting a political voice and opportunity. Government policies can have an undue impact on communities' ability to advocate for their needs. For example, voter ID laws that require voters to present a government-issued photo ID serve as a barrier to voters of color at a disproportionate rate. While approximately 8 percent of white voting-age citizens do not have a government-issued photo ID, approximately 25 percent of Black voting-age citizens do not have one.[54] This means that 25 percent of Black voting-age citizens are restricted from casting their votes where voter ID laws are in place. Similarly, when North Dakota enacted a new voter ID law in 2017, 19 percent of tribal voters lacked qualifying ID compared to less than 12 percent of other voters.[55]

Many communities of color also reported having limited access to polling places on Election Day. While only 5 percent of white voters reported having trouble finding a polling location, 14 percent of Black voters and 14 percent of Hispanic voters reported issues locating a polling place.[56] Similarly, voter turnout for

tribal communities is the lowest in the country due, in large part, to the long travel distances required to register and vote, or the lack of traditional mailing addresses on tribal reservations.[57] Similar challenges emerge for other rural communities across the country for whom geographic isolation is the greatest barrier to political participation. Known as "civic deserts" many of the most rural communities in the country are without opportunities for civic engagement.[58] As a result, the interests and needs of these communities go largely unrepresented in political spaces. This lack of a political voice is problematic because it allows for other inequities to remain entrenched with little opportunity for intervention.

Having examined some of the key vulnerabilities shared by disenfranchised and underserved communities, it is important to consider how these vulnerabilities are complex, interrelated, and inherently compounding. It may seem obvious, for instance, to acknowledge the impacts of educational attainment on poverty levels or of housing security on health outcomes. That said, jurisdictional barriers limit the ability of policymakers to address this complexity. Too often policies directed toward advancing economic development fail to address educational deficiencies in a community, while programs oriented towards improving health outcomes fall short of acknowledging the impacts of housing insecurity on community health. Often, if not always, economic development, education, health, and housing policies fall into separate legislative and agency jurisdictions.[e] To make significant strides toward meeting the needs of underserved communities nationwide, policymakers need to take an integrated approach to understanding inequity and how structures of inequality are self-reinforcing.

[e] For example, there are four separate agencies in the federal government for economic development, education, health, and housing: the U.S. Economic Development Agency in the U.S. Department of Commerce, the U.S. Department of Education, the U.S. Department of Health and Human Services, and the U.S. Department of Housing and Urban Development.

Navajo Nation, NM

SECTION 3

Doubly Vulnerable: Examining Multifaceted Vulnerability

Disenfranchised and underserved communities experience vulnerability across many facets of life. However, within these communities, as in all communities, there are persons whose ability, autonomy, and social capital are further limited. For example, LGBTQ+ individuals, the elderly, minors, people with disabilities, the unemployed, the incarcerated, immigrants, the homeless, those struggling with mental health or substance-use disorders, sex workers, veterans, and some ethnic and religious minority groups living in underserved communities can be considered doubly or triply vulnerable.[59] These groups often overlap and intersect, experiencing increased challenges within already disenfranchised and underserved communities. Social discrimination and limited political voice can leave these populations particularly ill-equipped to adapt to climate-related disasters. Moreover, many are susceptible to becoming targets of coercion and abuse at the hands of those who hold more power and social capital.

For example, poverty disproportionately affects members of socially vulnerable groups. Elderly populations can experience heightened social vulnerability due to a variety of factors including declining health, restricted physical capacity, shrinking social circles, and less command over financial resources.[60] As of 2019, 4.9 million Americans over the age of 65 lived below the poverty line with another 2.6 million older individuals reporting as "near-poor".[61] On the other end of the spectrum are minors who experience vulnerability in society as a result of their dependency on adults. Children are the poorest subpopulation in the United States. As of 2018, nearly 11.9 million children, or 1 in 6, live in poverty.[62] Such poverty impacts all areas of a child's life. The Children's Defense Fund reports that poor children are more likely to have low academic achievement, low economic prospects for later in life, and a higher likelihood of becoming involved in the criminal justice system.[63]

One population which experiences unique health disparities is the community of approximately 18 million United States veterans who have served in the military in different wartime eras, including the Vietnam, Persian Gulf, Iraq, and Afghanistan conflicts.[64] Varying wartime experiences result in different issues faced as a veteran, but there are several key challenges that veterans face. Firstly, about one in three veteran patients is diagnosed with at least one mental health disorder.[65] Additionally, the veteran suicide rate is about 31.6 per

100,000, a substantially higher rate than that of non-veterans (16.8 per 100,000).[66] Veterans are also at greater risk of experiencing substance use disorders, often in conjunction with a co-morbid condition such as PTSD, depression, chronic pain, or insomnia.[67]

Special attention must also be paid to the long-term health impacts felt by veterans due to exposure to chemicals, radiation, air pollution, and chemical warfare agents during their service. For example, Vietnam War veterans who were exposed to the tactical herbicide Agent Orange continue to experience effects from exposure.[68] Finally, active service veterans experience homelessness at a disproportionate rate. Though capturing an accurate measure of the homeless veteran population is challenging, the National Coalition for Homeless Veterans estimates that around 40,000 veterans are homeless on any given night.[69] In fact, approximately 13 percent of the United States' homeless adult population are veterans.[70] This housing insecurity leaves veteran populations particularly vulnerable to the compounded effects of health problems and environmental hazards.

Members of the LQBTQ+ community are also highly likely to experience discrimination, with 1 in 3 LGBTQ+ American reporting having experienced discrimination in some form in 2020.[71] This discrimination has effects across many areas of individuals' lives, from housing to healthcare to employment, leaving members of the LGBTQ+ community vulnerable to environmental harm, housing insecurity, illness, and poverty at a disproportionate rate. For instance, recent research conducted by Michelle Bell and Leo Goldsmith of the Yale School of the Environment reveals the disproportionate environmental burdens facing the LGBTQ+ community.[72] According to Bell and Goldsmith, the LGBTQ+ community is at heightened risk of environmental challenges due to the social, economic, and health inequities they experience.[73] As a result of these socioeconomic inequities, natural disasters and environmental hazards put the LGBTQ+ community at even greater risk from the impacts of climate change.

Some groups may be disenfranchised as a result of their interactions with the American legal system. Many immigrants, in particular those who are undocumented, are denied access to health and social services because of their legal status.[74] Immigrant populations are also targeted by voter suppression tactics to limit their political voice. A recent report by the Brennan Center found that the voter challenger laws, which allow private citizens to challenge a prospective voter's eligibility in 46 states, are most often evoked against Hispanic and Asian voters by anti-immigrant groups.[75] Similarly, voter identification laws that require a voter to present a form of identification have been shown to depress racial minority turnout by roughly 5 percent while only negligibly impacting white voter turnout due to the challenges that some immigrants face in obtaining legal identification documents.[76]

Voter disenfranchisement similarly affects those who have interacted with the criminal justice system. As of the 2020 general election, an estimated 5.17 million people—or 2.27 percent of the total U.S. voting-eligible population—are disenfranchised due to a current or previous felony conviction.[77] Black communities experience felony disenfranchisement to an even greater extent. Today, 1 in 16 Black Americans of voting age is disenfranchised due to a former or current felony, a rate 3.7 times higher than that of non-Black American voters.[78] Felony disenfranchisement prohibits those with former or current felonies from exerting a political voice by rescinding the ability to vote.

As indicated by the above examples, many subpopulations experience unique vulnerabilities as a result of their position in society. When these social vulnerabilities intersect with other forms of disenfranchisement, for instance for communities of color or tribal and rural communities, these individuals experience "multi-faceted vulnerability".[79] The literature also refers to such communities as "doubly vulnerable" due to the two or more factors which can diminish their autonomy or social capital.[80] As the silenced, ignored, tabooed, and marginalized in society, the "doubly vulnerable" not only face greater obstacles in society but must fight much harder to be recognized and defended. Fundamental to any attempt by policymakers to achieve social equity is the recognition of these double vulnerabilities which leave so many without a political voice, financial resources, and social capital.

San Juan Generating Station, near Waterflow, NM

SECTION 4

What Defines an Environmental Justice Community?

Having considered how communities are disenfranchised and underserved, it is appropriate to turn to a discussion central to environmental justice (EJ) policymaking: namely, what defines an "environmental justice community?" EPA currently defines environmental justice as the "fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, concerning the development, implementation, and enforcement of environmental laws, regulations, and policies."[81] This definition is informed by a long history of inequitable distribution of environmental hazards which have put certain groups—namely Black, Hispanic, Indigenous, and poor communities—at particular risk.[82]

Despite defining environmental justice, EPA has not yet defined "environmental justice community" in a manner that would allow for the creation of a list of counties or towns that can be categorized as environmental justice communities. Instead, several socioeconomic and environmental factors such as race and ethnicity, income, tribal or indigenous populations, and lands, environmental hazards, and lack of opportunity for public participation are described as relevant to the identification of a community as "overburdened."[83] While EPA encourages states to develop their own methods for identifying environmental justice communities, the Environmental Justice Screening Tool (EJScreen) notes certain demographic and pollution-related indicators (shown in table V.I) that they use to identify potential environmental justice communities.

While this list of indicators identifies key areas for consideration when identifying environmental justice communities, it has been criticized for its failure to account for the *cumulative* environmental justice risks which can impact communities.[84] The interaction of environmental and social risks has been called "double jeopardy" because[85] of the documented systemic disparities in the incidence and severity of health risks along socioeconomic and racial lines.[86] Additionally, low socioeconomic status has been shown to worsen the adverse effects of short-term and long-term exposure to air pollution. The EJSCREEN tool does not analyze how pollution interacts with such social and economic disparities to create worse conditions for communities. It is necessary therefore to take a more multidisciplinary approach that considers the cumulative harm to communities where exposure to pollution, health disparities, and economic inequality feed a cycle of compounded inequity.

Table 1: Demographic and Environmental Pollution Indication Used in EPA's EJSCREEN Tool

Indicator	Details
Particulate matter 2.5 ($PM_{2.5}$)	Annual average $PM_{2.5}$ levels in air
Ozone	Average of the annual top ten daily maximum 8-hour ozone concentrations in air
Diesel particulate matter	Diesel particulate matter level in air
Air toxics cancer risk	Lifetime cancer risk from inhalation of air toxics
Air toxics respiratory hazard index	Ratio of exposure concentration to health-based reference concentration
Toxic Releases to Air	RSEI modeled toxicity-weighted concentrations in air of TRI listed chemicals
Traffic proximity and volume	Count of vehicles (AADT, avg. annual daily traffic) at major roads within 500 meters, divided by distance in meters (not km)
Lead paint	Percent of housing units built pre-1960, as indicator of potential lead paint exposure
Superfund proximity	Count of proposed or listed NPL - also known as superfund - sites within 5 km (or nearest one beyond 5 km), each divided by distance in kilometers
Risk management plan (RMP) facility proximity	Count of RMP (potential chemical accident management plan) facilities within 5 km (or nearest one beyond 5 km), each divided by distance in kilometers
Hazardous waste proximity	Count of hazardous waste facilities (TSDFs and LQGs) within 5 km (or nearest beyond 5 km), each divided by distance in kilometers
Underground storage tanks (UST) and leaking UST (LUST)	Count of LUSTs (multiplied by a factor of 7.7) and the number of USTs within a 1,500-foot buffered block group
Wastewater discharge	RSEI modeled toxic concentrations at stream segments within 500 meters, divided by distance in kilometers (km)
People of color	The percent of individuals in a block group who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino. That is, all people other than non-Hispanic white-alone individuals. The word "alone" in this case indicates that the person is of a single race, not multiracial
Low-income	The percent of a block group's population in households where the household income is less than or equal to twice the federal "poverty level"
Unemployment rate	The percent of a block group's population that did not have a job at all during the reporting period, made at least one specific active effort to find a job during the prior 4 weeks, and were available for work (unless temporarily ill)
Limited English speaking	Percent of people in a block group living in limited English-speaking households. A household in which all members aged 14 years and over speak a non-English language and also speak English less than "very well" (have difficulty with English) is limited English speaking
Less than high school education	Percent of people aged 25 or older in a block group whose education is short of a high school diploma
Under age 5	Percent of people in a block group under the age of 5
Over age 64	Percent of people in a block group over the age of 64

In a review of the gaps in existing environmental justice screening tools, the National Wildlife Federation published a list of six other thematic areas which are necessary for identifying environmental justice communities to account for the cumulative harms they face. First is the area of **Social Progress**, which describes the advancements in technology and social capital that can improve the overall well-being of people and allow them to escape generational poverty.[87] Some of the proposed indicators for social progress include broadband internet access, investment in public housing, access to public transit, and investments in energy efficiency accessibility.[88] Where indicators for social progress are low, a community is likely more impacted by the cumulative effects of environmental exploitation and could be considered an environmental justice community.

The second thematic area of **Vulnerability** is described as the "output of sensitivity, exposure, and adaptive capacity."[89] In other words, the less a person or community can adapt to challenging circumstances, the more vulnerable they are. In the previous section, this paper discusses the compounded challenges which exist for the "doubly vulnerable" including veterans, LGBTQ+ individuals, the elderly, minors, and those with disabilities. Those who are most marginalized in society face disenfranchisement to a greater degree, leaving them ill-equipped to cope with natural disasters or social upheaval.

To evaluate a community for environmental justice concerns, it is particularly important to consider the potential incidents and environmental exposures a community might face. Indicators should account for the risk of climate change impacts such as natural disasters like flooding, drought, wildfires, which are exacerbated in the case of substandard infrastructure, and extreme temperatures. For example, exposures should consider the "built environment" of a community, noting where there is unstable infrastructure and impure water sources.[90] In addition, indicators for social vulnerability will give a better sense of the cumulative effects of environmental harm. For example, a heat vulnerability index developed by Nayak, *et al.*, draws upon biological factors such as age, poverty, employment, housing, and language barriers that impact the ability to thermoregulate and access information to weather warnings and reports.[91]

A third area to be considered when evaluating a community for environmental justice concerns is **Climate Impact Inequity**. This set of indicators evaluates the ability of communities to prepare for, respond to, and recover from natural disasters.[92] Compounded inequities, such as those described in the section above on characteristics of disenfranchisement, limit a community's ability to respond to disasters. Indicators measuring a community's adaptability should account for such inequities which compound environmental impacts. Sample indicators include a community's level of access to community and emergency services, investments in frontline/ environmental justice organizations, food insecurity, and the affordability of disaster insurance.[93]

Similarly, indicators of **Economic Progress** provide a more comprehensive picture of a community's ability to adapt to and recover from any environmental harm. Numerous studies have shown that a community's capacity to adapt to the impacts of climate change depends on factors related to economic growth, including good institutions, high educational attainment, strong infrastructure, and municipal services.[94] While existing tools for categorizing environmental justice communities account for traditional measures of economic strength, such as household income and poverty levels, incorporating other measures of economic growth and progress will allow for a better understanding of a community's responsiveness to cumulative environmental harms.

A fifth thematic area for consideration is **Health**, namely those disparities in health outcomes and treatment options that may impact a community's responsiveness to natural weather events and environmental hazards. For example, where there are dangerous heat conditions and wildfires, communities will face health impacts associated with smoke inhalation, including inflammation, exacerbation of preexisting conditions, and premature death.[95] For some communities, these impacts will be greater than others, like for Black Americans who are 1.5 times more likely to have asthma and 3 times more likely to die from asthma than their white counterparts.[96] Black Americans similarly suffer at a higher rather than their white counterparts across several risk factors, including hypertension, obesity, diabetes, and high cholesterol.[97] Identifying communities at greater risk of poor health outcomes through indicators such as mortality due to extreme cold, lack of available mental health support, and respiratory and cardiovascular hospitalizations, will give a better indication of a community's capacity to adapt to environmental impacts.[98]

A final area of consideration is a community's **Resilience** which describes the ability of a community to respond to and recover from disruptive events.[99] Several existing

tools offer indicators for resilience. For example, the Rural Resilience Index evaluates communities according to three key factors: social fabric, community resources, and disaster management.[100] The more cohesive and well-coordinated a community, the more likely it will be able to respond effectively to potential harmful impacts. Similarly, a community will cope better when there are community resources ready to support community members to mitigate environmental harm.

Each of these thematic areas of consideration comprises an important piece of the larger puzzle when determining if a community should be categorized as an "environmental justice community" It is not sufficient, for instance, to consider environmental factors without understanding a community's unique socio-economic vulnerabilities and challenges to its resilience. On the other hand, not every disenfranchised and underserved community will necessarily fall within the category of "environmental justice community." In fact, there have been instances where the removal of energy infrastructure resulted in the *creation* of disenfranchised and underserved communities.

Consider, for instance, the case of Zion, Illinois.[101] This suburban community about 50 miles north of Chicago was the site of the Zion Nuclear Power station which employed 1,200 individuals until the plant closed in 1998. When the Zion Nuclear Power Station closed, the town lost $19 million in annual property tax revenues, approximately 50 percent of Zion's tax base. Zion also continues to be a host to 65 150 metric-ton waste canisters 90 meters from Lake Michigan. The diminished tax base in Zion caused a significant reduction in police officers and insufficient funding to maintain local infrastructure and services causing a 145 percent property tax increase immediately after the shutdown. Today, a quarter-century later, almost two-thirds of single-family homes are rentals compared to healthy communities, where rentals are about 23 percent.[102]

In a similar case, Dille and Widen, West Virginia were once booming mining towns that provided widespread economic benefits to residents in the area. However, since the closure of the Rich Run mines in the 1960s, the towns of Dille and Widen have steadily deteriorated into poverty.[103] Where Dille and Widen were once home to a community of over 3,000 residents, today the population is about 300 people.[104] With very few employment opportunities other than a local gas station and fast-food restaurant, approximately half of the families in the region receive their food from a church food pantry.[105] In the case of Dille and Widen, the closure of the Rich Run Mine resulted in the creation of a disenfranchised and underserved community with no prospective economic development in the near future.[106]

In these cases, many highly skilled workers and their families were forced to relocate to find employment. As a result, the procurement of local goods and services was significantly reduced and tax payments to local towns plummeted causing local housing values to erode. The examples of Zion, IL, and Dille and Widen, WV demonstrate the importance of addressing the possible outcomes that energy industry transition can have — compounding the challenges facing communities by creating severe socio-economic impacts.


Navajo Nation, NM

SECTION 5

Understanding Community Resistance and Mistrust

Historical exploitation by governments and industries has resulted in many disenfranchised and underserved communities becoming mistrustful of outside actors. On tribal lands, for instance, almost all energy project development to date has been operated and managed by non-tribal entities.[107] This history has been marred by consistently imbalanced business deals, environmental damage, and a general disregard for community values.[108] These dynamics have resulted in a strong legacy of suspicion and mistrust which carries over into contemporary dealings with outside actors.[109] Communities can be reluctant to hand ownership of the land over to outside investors or developers when history has shown them that, once they relinquish ownership, they can end up bearing the brunt of the economic and environmental costs of such initiatives. Not only might they bear the costs, but they may not even reap the benefits of local energy sources if outside developers decide it is more lucrative to export energy than to provide it to local communities who may remain without sufficient energy themselves.

Legacies of exploitation and betrayal can significantly influence interactions between communities and those who wish to partner with them in pursuit of a clean energy transition.[f] Communities may be reticent to allow the building of clean energy projects on their land or within their communities because they fear economic losses. For example, on rural and tribal lands where the fossil fuel industry has provided jobs for generations, the development of new technologies that could oust polluting industries from the region can be threatening to the financial stability of the local labor force.[110] On the other hand, communities may be ill-suited to handle the large influxes of people and economic activity that new projects would bring. There is some fear that following

[f] For purposes of this paper, "clean energy" is defined as low/zero carbon equivalent emitting technology; however, the authors recognize that a deeper understanding of conventional pollutants, supply chain and other attributes are necessary for a truly accurate definition of "clean energy."

an economic "boom," unsustainable projects will leave already poor communities worse than they found them.[111] Another concern arises over the potential rise in utility prices and the burden this cost will place on low-income and impoverished households.[112]

In addition to fears of economic loss, some communities are concerned that new projects will fundamentally alter community dynamics or their connection to the land.[113] Though these projects may provide some environmental benefits, community leaders must consider the immediate environmental toll that large-scale projects could have on the landscape. Some fear that these technologies will create noise or disturbances, or that they might disrupt local habitats with seismic activity, water pollution, or air pollution.[114] The aesthetic disturbance caused by a wind farm could prompt resistance from certain community members. Others might worry about the economic repercussions, including reduced property values, a decline in tourism, and the potential deterrence of investors from engaging with the community.

Consider, for example, the long-held resistance of the Osage Nation against the installation of wind turbines on their land. In a 2017 article, Osage Chief Geoffrey M. Standing Bear explained this opposition, citing the impacts of industrial wind farms on the connection felt between the Osage people and their land, in addition to concerns over the detrimental effects on the local economy, community health, and wildlife.[115] He writes, "Wind farms exacerbate the life cycle of animals and nature on our sacred land...The Osage Nation will oppose wind farms forever based upon these reasons. We will show our opposition in every way possible, including public statements, advocacy and by legal means if necessary".[116] For years, the Osage Nation has maintained this opposition, even going so far as to sue wind farm operators in federal court.[117]

Pumped Hydro Storage LLC faced similar resistance in 2019 when the company proposed the development of hydropower dams in the river gorge near the confluence of the Colorado and Little Colorado rivers in northern Arizona, squarely within the Navajo Nation's land. Despite the potential economic benefits of the project touted by the company's manager, including paved roads, tourism and jobs, the Navajo Nation, along with a committee of sheep and cattle ranchers in the Western Navajo Agency, issued formal letters opposing the project.[118] Rita Bilagody, spokesperson for a Navajo Nation grassroots organization Save the Confluence, expressed her frustration with the project proposal: "This is another outside developer who professes to do all these things for us," she said. "But it doesn't benefit us, it's for them."[119] In conjunction with the Navajo Nation's opposition, the Hopi, Hualapai, and Havasupai tribes echoed concerns about the project's impacts on water, wildlife, and cultural resources.[120] Ultimately, this resistance contributed to Pumped Hydro Storage LLC surrendering their two preliminary permits for the Salt Trail Canyon and Little Colorado River Pumped Storage Projects.

These examples illustrate how community resistance and mistrust can manifest in response to efforts by outside actors to develop projects which impact disenfranchised and underserved communities. Too often, this response is only exacerbated when outside actors fail to dedicate time and resources to building trust. One study[9] which investigates the connection between overall trust in Carbon Capture Utilization and Storage (CCUS) companies and public acceptance of CCUS projects found that there are four dimensions of trust which contribute to public acceptance of CCUS technology: personal contact with the company, public image of the company, working conditions, and moral values in general.[121] Large-scale technologies with multi-year development processes like CCUS can be too abstract to convince the general public of their benefits.[122] As such, the aforementioned study found that companies that prioritize responsible stakeholder engagement and take the time to provide community members with clear and understandable information about CCUS technology will build trust with communities.[123] If, on the other hand, companies choose to conceal information from the public because it is "too complicated for laypeople," "too bothersome to provide information," or "too risky to evoke public protests," they are more likely to experience mistrust and resistance from community members.[124]

Longstanding mistrust held by a community can elicit strong reactions in community members, ranging from strongly worded petitions to angry outbursts at public meetings, or even large demonstrations at project sites. Project developers and practitioners often do not know how to respond to such emotionality.

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9 Offermann-van Heek, J. Arning, K. Linzenich, A. Ziefle, M. (August 2018). *Trust and Distrust in Carbon Capture and Utilization Industry as Relevant Factors for the Acceptance of Carbon-Based Products*. Human-Computer Interaction Center. https://doi.org/10.3389/fenrg.2018.00073.

Either they will ignore public outcry, thus triggering even greater resistance, or they will immediately stop project development.[125] These responses are often ill-informed by erroneous assumptions about why a community is resistant. One such assumption is that if a community better understood the potential benefits of a project, then it would be more favorable to development.[126] However, this is not necessarily the case especially if the potential drawbacks of a project to the community outweigh the potential benefits to the community and/or society at large. A second assumption attributes negative responses to "NIMBYism" ("not in my backyard"), which risks reducing community concerns to a sense of selfishness or unwillingness to host energy projects.[127] This reliance on "NIMBYism" as a way of dismissing community resistance diminishes the legitimate concerns of communities and risks alienating them further from future project development.

A third assumption is that financial compensation can be used to overcome community resistance to energy projects.[128] While the economic benefits are an important element in weighing the overall benefits and burdens associated with an energy project, they may not always be the most salient consideration for community members. Other concerns, related to the creation of new environmental hazards, and their mitigation, cultural protection, or social dynamics may outweigh any potential economic compensation an energy project could provide. Companies that hold the assumption that a resistant community can be "bought off" risk sowing deeper mistrust among community members.

Mosaic Faustina Ammonia Plant, St. James, LA

SECTION 7

Methodology

The information in this paper was sourced from a systematic review of the literature and evidence on the challenges facing communities of color, rural communities, tribal communities, and low-income communities. By drawing on information from academic articles, publications by policy think tanks and environmental justice advocacy groups, recent webinars, as well as relevant media and newspaper articles, this research represents a broad range of sources on the topic.

Examples include papers such as "A Paradox of Plenty: Renewable Energy on Navajo Nation Lands" by Fernandez-Bou, *et al.* and "Introduction to evaluating Energy Justice across the life cycle: A Social Life Cycle Assessment Approach" by Fortier, *et al.* Some of the articles referenced for this paper include "Many rural Americans are still 'left behind'" by the Institute for Research on Poverty at the University of Wisconsin-Madison and "What Drives Native American Poverty?" by the Institute for Policy Research. Additionally, this paper draws on insights that emerged from a range of virtual events and webinars including the Transatlantic Forum for Environmental and Climate Justice presented by POCACITO.

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