A Health Justice Agenda for Local Governments to Address Environmental Health Inequities

Gregory Miao, Katie Hannon Michel, and Tina Yuen

1: CHANGELAB SOLUTIONS, OAKLAND, CA, USA

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Abstract: This article explores how structural failures in major federal environmental regulations which set a foundation for environmental protections nationwide— have helped create many of the environmental injustices that people of color and low-income communities experience. It continues by examining how local governments have reinforced and compounded the failures in the federal environmental regulatory framework, particularly through local land use decisions. Although states play an important role in environmental policymaking, we propose that local governments are uniquely positioned to utilize a health justice approach to address environmental health inequities. This approach centers partnerships between frontline communities and local governments to develop just solutions that fill gaps within the federal environmental regulatory system and anticipate and mitigate the compounding effects of environmental health inequities.

Introduction

Law plays a large role in creating the conditions in which health inequities exist and persist. Unjust laws, policies, and practices shape our physical, social, and economic environments; codify discrimination and disenfranchisement; and create unequal opportunities for education, jobs, housing, and other health-promoting resources. As a result, communities of color, people with low incomes, and others who are underserved by laws, systems, and institutions experience dramatically poorer health than people with more political and economic power.

Environmental policy is one place where these issues play out. The disproportionate harm to the health and well-being of frontline communities from environmental injustices is well understood.⁴ For example, race has been identified as the single variable best able

Gregory Miao, J.D., M.S., is a Senior Attorney at ChangeLab Solutions. His work focuses on legal and policy issues related to safe, stable, and affordable housing, preemption of local housing laws and policies, and active living. Tina Yuen, M.P.H., M.C.P., is a Managing Director at ChangeLab Solutions where her work focuses on advancing policies and governance solutions that foster healthy, equitable, and sustainable communities. Katie Hannon Michel, J.D., M.E.L.P., is a Senior Attorney at ChangeLab Solutions. Her current work focuses on legal epidemiology, equitable enforcement, and environmental health and justice.

to explain the placement of toxic facilities in the U.S.,⁵ and communities living near oil and gas facilities face health impacts of poor air quality including asthma attacks, nausea, body spasms, headaches and respiratory illnesses.⁶ These environmental injustices are not merely the result of market forces and individual decisions about where to live, but rather are the result of intentional and deliberate policies and initiatives over multiple generations at all levels of government that have entrenched segregation, health inequities, and other unjust outcomes.⁷

Governments, institutions, and communities must work together to alter these systems and policies that perpetuate inequity, replacing them with new policies that purposefully lead to health, racial, and environmental justice, especially for those with the fewest resources and greatest exposures to environmental health risks and other social determinants of poor health.

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issues. However, this article focuses on local solutions because of the unique role local governments have played in worsening environmental harms through discriminatory land use decisions, and because local governments are ideally situated to utilize a health justice approach to redress those harms. Local governments are closer to the enduring problems of environmental pollution that harm health at neighborhood and regional levels, and which decades of federal and state environmental regulations have failed to prevent. Local governments are also better positioned to listen to, learn from, and empower the people who are most affected by environmental health injustices when identifying problems and crafting solutions.

Problems with the Current Environmental Protection Framework at the Federal Level

The "federal environmental regulatory framework" attempts a two-pronged approach to promoting environmental welfare. First, this framework establishes ambient environmental standards (e.g., air and water

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a foundation for environmental protections nation-wide — have helped create many of the environmental injustices that people of color and low-income communities experience. The article continues by examining how local governments have reinforced and compounded the failures in the federal environmental regulatory framework, in particular through local land use decisions. This article concludes by proposing how local governments can utilize a health justice approach to partner with frontline communities on developing common-sense solutions that fill gaps within the federal environmental regulatory system and anticipate and mitigate the compounding effects of environmental health inequities.

States play an important role in our country's overall environmental regulatory system as implementers of federal regulation; as environmental policymakers in their own right (eg, with respect to topics like water use and allocation, energy infrastructure and utilities, and housing);⁸ and as the source for local authority to address land use and other important environmental

quality) intended to protect against various harms to human health and the environment. Second, it seeks to regulate sources of pollution in order to meet those standards and otherwise protect public health, utilizing tools such as chemical registration requirements, emissions limits, discharge permits, and performance standards. While the intent of this framework is to provide for comprehensive regulation of pollution and other environmental hazards, in practice there are numerous gaps that have led to an inequitable distribution of environmental risks and benefits, particularly for communities of color and people with low incomes. Three distinct features of the federal environmental regulatory system help drive this inequitable outcome.

1. Federal Environmental Regulations Fail to Promote Primary Prevention

In public health, "primary prevention attempts to prevent the development of disease entirely." Immunization against infectious disease is a classic example.

Federal environmental regulations are not based on primary prevention. Rather than preventing exposures to environmental hazards and resulting health harms, our federal environmental regulatory scheme weighs the protection of human health and the environment against the costs to existing business interests of complying with environmental regulations, utilizing Cost Benefit Analysis (CBA).

CBA, which underpins many federal environmental regulations, ¹⁴ assesses whether the estimated social benefits of a regulation justify its projected implementation costs. ¹⁵

However, in the context of developing environmental regulations, evaluating social benefits is challenging. The full benefits of a healthy ecosystem for current and future generations are not easily translated into monetary values. CBA thus requires the creation of artificial prices for environmental and health benefits using a complex set of assumptions and ethically questionable financial analysis techniques. Notable methods include estimating how much people are willing to pay for small reductions in the risks of pollution-related mortality, a measure commonly referred to as the "value of a statistical life," and discounting, a procedure developed by economist to evaluate the present value of future benefits.¹⁶

The use of CBA in environmental regulations inherently works against primary prevention as, by definition, it justifies some health harms (and even deaths) when it is too costly to avoid them. It also drives inequitable environmental health outcomes, failing to adequately consider the equitable distribution of costs and benefits. Because more affluent persons and communities are more likely to be willing and able to pay the cost of avoiding environmental harms, CBA may overvalue their preferences. ¹⁷ All too often, the federal environmental framework undervalues those with the least resources facing the greatest environmental risks and prioritizes economic growth and profit maximization over a clean environment and protecting public health.

2. Federal Environmental Regulations Fail to Provide Targeted Protection and Enforcement at Smaller Geographic Scales

Federal environmental regulations frequently utilize a universal, rather than targeted, approach, establishing minimum environmental standards for large geographic areas. While this approach mitigates the challenge of monitoring and enforcing environmental standards across a country as large as ours, it also permits concentrated pockets of pollution to exist. For example, the Clean Air Act establishes ambient air quality standards for pollutants considered to be harmful to public health,¹⁸ which apply within broad "air quality control regions."¹⁹ Research has shown that, unfortunately, air quality within these regions is not uniform, and that concentrated areas of pollution exist at levels that exceed federal standards, endangering public health for nearby residents who are frequently low income and are disproportionately people of color.²⁰ In short, minimum standards that apply on the macro (region or statewide) scale fail to provide targeted, neighborhood-level protection, resulting in an unjust distribution of environmental health risks.

The failure to provide targeted protection to communities most impacted by environmental harms can also be attributed to issues with implementation and enforcement. For example, the federal Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund, creates a fund to clean up hazardous waste sites.²¹ A 2021 report from the National Environmental Justice Advisory Council notes that "Superfund sites disproportionately impact minorities, people living under the poverty level, and communities who are linguistically isolated."22 The report recommends that the EPA should conduct an analysis of the demographics of communities near such sites so that the agency can better understand where impacts are the greatest, prioritize resources, and monitor progress on cleanup. Research on the Safe Drinking Water Act has found hot spots for violations of health-based standards, predominantly in rural areas and minority communities, and notes that targeting enforcement resources to underperforming utilities is one way to address the issue.23

3. Federal Environmental Regulations Fail to Account for Compounding and Cumulative Impacts

The federal environmental regulatory framework utilizes risk assessment tools to quantify the potential health effects of pollution exposures on vulnerable populations. However, these tools fail to address and account for the cumulative health, social, and economic impacts that communities of color and persons with low incomes experience that potentiate environmental exposures.²⁴

Cumulative impacts have been defined as the "cumulative, and potentially synergistic, effects of environmental and social stressors on the health of communities whose populations are mostly composed of racial or ethnic minorities or people of low socio-economic status." Research on cumulative impacts have shown that the complex interplay between multiple environmental hazards and social stressors — such as poverty, racial discrimination, residential segregation, crime,

food insecurity, and housing instability — are important drivers of environmental health inequities.²⁶

For example, communities of color and low-income communities are more likely to be located next to and directly affected by industrial or hazardous land uses, such as freight transport facilities, oil fields and refineries, waste facilities, or interstate freeways.²⁷ These same communities are also more likely to experience greater underlying health inequities from the myriad of health, economic, social, and place-based factors that have been present for many generations, such as inequities in wealth, neighborhood disinvestments, disparities in neighborhood conditions, and lack of access to opportunities and needed services and resources.²⁸

These cumulative impacts result in a form of triple jeopardy for communities of color and low-income communities in which they face increased exposures to environmental hazards, increased biological sensitivity to these hazards (due to chronic psychosocial stress and higher allostatic load, compounding inequities in the prevalence of chronic diseases, and cumulative environmental exposures), and decreased access to protective resources and adaptations that allow for adequate coping responses.²⁹

Problems with the Current Environmental Protection Framework at the Local Level

Local governments generally derive authority from the states to regulate a wide range of private conduct affecting the health, safety, morals, and general welfare of the public.³⁰ Utilizing these powers, localities have been able to pass a wide range of environmental health policies, including, among others: zoning and other land use regulations; building and housing codes; wetlands protection laws; laws regarding food, septic, and pool inspection; well construction; and pest control.

However, rather than addressing the structural gaps in the federal environmental regulatory framework, local environmental health regulation has instead compounded environmental injustices. This can be seen in three primary ways:

1. Racist Land Use Policies

Perhaps the clearest example of how local governments have compounded and reinforced environmental health injustices is in their use of one of the foundational local environmental protection policies: zoning. The 1924 Standard State Zoning Enabling Act is model legislation promulgated by the federal government that has served as the basis most states' zoning laws. The Act's very first section delegates to

localities the authority to pass and adopt zoning laws "for purpose of promoting health, safety, morals, or the general welfare of the community."31 Despite the promotion of health as one of the foundational purposes of zoning, localities instead utilized their zoning authority throughout much of the 20th Century to promote segregation and force unjust environmental exposures on communities of color and low-income communities.32 In addition to zoning, other past and current racist land use policies, including the use of eminent domain³³ and even modern tax policies,³⁴ have led to racialized disparities in access to parks and green spaces,35 exposures to climate risks and hazards such as urban heat islands,36 and likelihood of living in housing with poor indoor air quality and lead exposure.37

2. Lack of Prevention Focus

Beyond explicitly discriminatory regulation, even when local jurisdictions have created environmental health programs, they have failed to design or implement those programs with a prevention focus. Many local environmental health programs, such as housing code enforcement programs, are reactive in nature, triggering only after tenants file complaints about unsafe or hazardous housing conditions. The reactive nature of these programs reinforces structural barriers to environmental and health justice, requiring individuals and communities that have been systemically disenfranchised to know their rights and file complaints. This privileges those that have the resources and ability to seek remedy while disadvantaging communities at the greatest risk.³⁸

3. Inequitable Underenforcement of Local Environmental Health Laws

Local jurisdictions have compounded harms from underenforcement of federal environmental laws through their own inequitable enforcement of local laws. For example, a recent review of housing code enforcement systems in Boston, MA, found that despite the existence of several local healthy housing initiatives and laws, there was disparity in both the rapidity and efficacy of the municipal responses to housing quality complaints in predominantly Black and predominantly White neighborhoods. This, in turn, helped ensure the persistence of disparities in the experience of asthma triggers between such neighborhoods.³⁹

Inequitable Risks from Compounding Regulatory Failures

The failures of environmental regulation at the federal and local levels compound each other, frequently with disastrous consequences for the health and well-being of communities of color and low-income communities.

The creation of "Cancer Alley," a majority black 85-mile corridor along the Mississippi River in Louisiana is a clear example. Cancer Alley has been home to nearly 150 petrochemical plants and oil refineries since the 1980s, each of which was authorized and permitted as a pollution generating entity by federal and state entities including the U.S. Army Corps of Engineers and the Louisiana Department of Environmental Quality. These plants have generally been properly permitted in accordance with federal and state regulations. Nevertheless, people living in this area have a higher cancer risk than 95% of Americans, and 90% of Louisiana residents, with health risks being unevenly distributed: polluting plants are more likely to be located near black populations than white populations, and black populations face associated health risks at disproportionate rates.41

Despite these disparate impacts on black communities, the state and some local governments have endeavored to turn the area into an industrial hub, offering generous tax breaks in exchange for job creation; abusing public meeting and notice requirements to minimize public participation and opposition to the rezoning of previously residential, and predominantly black, areas for expanded industrial uses; and endorsing continued development of polluting sources in the area. ⁴² As a result, the siting and construction of oil refineries has been concentrated in majority black districts in the parish while whiter areas around the parish have been able to deny industry growth proposals through stricter land-use and zoning laws. ⁴³

Opportunities for Local Governments to Close Gaps in the Environmental Regulatory Framework

Despite the shortcomings in the federal and local approaches to environmental protections, there is an opportunity for local governments to utilize a health justice approach to redress environmental racism and improve community health and wellbeing. Health justice requires "a regulatory and jurisprudential approach that consistently and reliably considers the health ramifications of judicial and legislative decision making."⁴⁴ Using a health justice framework requires that "[p]olicies, laws, and social structures must anticipate, and be designed to mitigate, the effects of socioeconomic inequality and the social determinants of poor health. Equally important, health jus-

tice requires the development of laws and policies that prevent health inequity and increase individual capability."45

Local governments are well positioned to do this work for a variety of reasons. Local governments function as laboratories for testing new and innovative policies. Further, local solutions can be more politically feasible than policy changes at the federal level and state levels, providing case studies and evidence of success, which can set the stage for state-level or national changes in the future.

Additionally, local governments possess a broad set of regulatory tools to help address the structural determinants of environmental exposure and poor health. Local governments must navigate a fairly complex web of federal and state public health and environmental laws, which may limit, direct, or increasingly preempt⁴⁶ their work. Despite these challenges, there are significant opportunities for local governments to regulate many aspects of a wide array of topics that touch people directly, such as transportation, planning, health, housing, and education. Local governments can further influence public outcomes through their control of municipal spending, financing, and program implementation. Utilizing these powers, local governments can implement coordinated multisector responses necessary to anticipate, and mitigate, the effects of socioeconomic inequality and the social determinants of poor health.

Finally, as compared to federal and state governments, local governments are more grounded, in a deep understanding of the health needs, community goals, and lived experiences of residents and therefore more likely to create the kind of lasting change that comes from responding to local priorities. By improving community participation in decision-making processes, local governments can help redress the subordination that has disenfranchised communities of color and low-income communities, limited public participation in environmental decisions, and created concentrated pockets of pollution. Take, for example, the work Fresno, California is doing through the Fresno Transformative Climate Communities Program (TCC)⁴⁷ to develop and implement neighborhood-level climate community plans that include greenhouse gas emissions reduction projects that also provide local economic, environmental and health benefits to disadvantaged communities. While the TCC is funded through the California Strategic Growth Council, a working group comprised of state agencies focused on furthering sustainable economic growth, it is the city that has the tools, relationships, capacity, and mandate to lead a community-driven planning and decision-making processes to choose and implement policy changes and climate-smart investments that address community environmental and health needs.

A Four-Point Health Justice Framework for Addressing Environmental Health Inequities at the Local Level

Adopting a health justice approach at the local level to address environmental health inequities requires four things: focusing on primary prevention, incorporating the precautionary principle in environmental decisions, utilizing targeted universalism to address health and environmental disparities, and acknowledging and remedying the cumulative impact of past environmental injustices on marginalized populations.

1. Focus on Primary Prevention

Focusing on primary prevention means working to prevent the development of environmental and health color and low-income communities bear a disproportionate risk of lead exposure from deteriorating paint in substandard housing.⁵⁰ In amending its municipal code to require periodic proactive inspection for and correction of lead hazards in high-risk rental housing,⁵¹ Rochester passed a primary prevention law that not only led to a significant reduction in elevated blood-lead level in childhood,⁵² but also helped to close existing environmental health disparities in the community.

2. Incorporate the Precautionary Principle in Environmental Decisions

Local governments can adopt a precautionary approach in local environmental health decision-making. This means erring on the side of caution where there are reasonable grounds for concern about the potential for deleterious harms, even in situations

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disparities in the first place. Many of the drivers of health and environmental equity can be influenced through decisions about how local programs and services are delivered. Local governments have control over those programs and services — from zoning and planning, to building code, business licensing, transportation and built infrastructure spending, and education and school policies — which provides opportunities to make changes that touch people's lives directly. While many of these tools are not typically defined as environmental regulations or policies, they can impact environmental quality, nonetheless.

Rochester, New York's work to address childhood lead poisoning is one exemplar of how localities can adopt a primary prevention approach. Federal regulation of lead, particularly the prohibition of lead-based paints and leaded gasoline for on-road vehicles in 1978 and 1996, respectively, has led to a significant decline in lead poisoning rates nationally.⁴⁹ Yet childhood lead poisoning continues to be a challenge. Because of structural discrimination, communities of

where the evidence of harm and/or exposure for a particular hazard is incomplete or evolving, in order to avoid and mitigate risk to the public's health at the outset of a project or activity.53 While there is debate about the costs of utilizing the precautionary principle in the face of scientific uncertainty,54 jurisdictions, such as the European Union, have approached the issue by recommending taking action when there is "reasonable grounds for concern" about potential risks, and subjecting regulatory measures introduced as a result of the precautionary principle to review and modification in light of new scientific data.⁵⁵ Additionally, local governments may be better situated to incorporating the precautionary principle due to the smaller costs of doing so compared to higher levels of government, allowing for action to be taken in face of uncertainty while science is evolving with solutions bubbling up to higher levels of government as it does.

One example of how local government can incorporate the precautionary principle in local decision making, in contrast to the federal approach, comes from

local responses to emerging evidence about the health risks associated with polyfluoroalkyl substances (PFAS). PFAS are widely used, long lasting chemicals, components of which break down very slowly over time and that can be found in water, air, and soil as well as in food products and the blood of people and animals. Scientific studies have shown that exposure to some PFAS may be linked to harmful health effects in humans and animals. However, the evidence base linking specific PFAS to specific risks and harms is challenging because of the multitude of PFAS chemicals found in a wide range of consumer, commercial, and industrial products. 56

As a result, although there has been emerging evidence surrounding the harms from PFAS for years⁵⁷ federal regulators have been slow to take action, only recently proposing drinking water standards for the two most frequently detected PFAS to be finalized by the fall of 2023.⁵⁸ In the meantime there has also been a wide range of responses at the state level, with approximately 20 states enacting their own maximum standards for detectable levels of different PFAs in water sources, some of which are more protective than the current federal recommendations, and some of which allow for PFAS concentrations at levels that are far greater than federal recommendations.⁵⁹

This patchwork of state and federal regulations has made incorporating the precautionary principle into local decision making even more important. And local governments are increasingly doing so, increasing water testing of public and private drinking water sources, installing water filtering equipment in public water systems, providing resources to people who get their water from unregulated water sources (eg private wells), and switching to safer drinking water sources.⁶⁰

As different communities may reflect different risk tolerances⁶¹ the incorporation of precautionary thinking should be set through a local participatory decision-making processes, enabling representation of communities facing disproportionate environmental risks.⁶² Additionally, a health justice utilization of this principle incorporates an appreciation for the increased risk frontline communities face, the cumulative effects of harmful exposures on those populations, and the relative distribution of risk for those populations in order to rectify the harms stemming from the prioritization of the "common good" implicit in CBA.⁶³

3. Utilize Targeted Universalism in Policies and Programs

Under a targeted universalism framework, universal goals are set for all groups and pursued through targeted processes based on how various groups are situated within structures, culture, and across geographies. ⁶⁴ This contrasts with targeted strategies, which are based on selected groups without an overarching universal goal, and universal strategies (utilized within the federal environmental framework), which serve all without regard to group membership. A targeted universalism approach requires an understanding that disparities in environmental exposures and sensitivities necessitate a differential and targeted local government response.

Local governments can utilize targeted universalism in policies and programs to address failures in the federal framework that allow concentrated environmental harms to occur at the community and neighborhood level, and redress local decisions that have compounded those harms. Local governments can do this by identifying health and environmental disparities and implementing remedies that improve health and environmental outcomes for all, but that prioritize those who were most impacted. For example, local governments can implement jurisdiction-wide environmental and health protections that provide the greatest benefit to neighborhoods most impacted by redlining and highway construction while also prioritizing investments in environmental and health promoting infrastructure in those neighborhoods.

One city that has utilized this approach is Los Angeles, which adopted its "Clean Up Green Up" policy in 2016 to address concentrated pollution exposures in the city. While some aspects of the policy apply citywide, other provisions are designed to help the communities that currently experience a disproportionate environmental burden. For example, while the policy includes mandatory air filters for all new and expanded development (residential, commercial, industrial) within 1,000 feet of freeways, it also establishes three pilot "Green Zones" in historic "environmental justice" areas, which include additional restrictions on air polluting activities, such as buffer zones for auto-related operations and enclosure requirements for air polluting uses. 65

4. Address the Cumulative Impacts of Environmental Exposures to Individuals and Communities

Addressing cumulative impacts means acknowledging both the immediate harms resulting from environmental exposures and the social, political, and economic factors that increase some people's sensitivi-

ties to such exposures. This necessitates going beyond ending implicit and overt bias in local decision-making and halting discriminatory practices, to taking concrete steps to affirmatively remedy the cumulative environmental and health harms communities of color and low-income communities have endured by providing supports to those individuals and communities to mitigate those other increased sensitives.

Consider a factory sited near a low-income community. The factory degrades air quality in that community so that children there begin developing asthma at significantly higher rates. A locality addressing the immediate impacts might require that factory to install new filtration technology to lower emissions of pollutants and provide inhalers to the community at no-cost. A locality that addresses the cumulative impacts however, will seek to minimize and rectify the "cumulative, and potentially synergistic, effects of environmental and social stressors on the health of communities." For example, the locality might consider what other stressors exacerbate children's asthma and consider policies to address those stressors — such as policies to improve housing quality - as well as policies to increase access to protective resources, like constructing nearby indoor recreational space and providing programming that supports coping responses.

Los Angeles' "Clean Up Green Up" policy provides an example of how localities can address this element of the health justice framework as well. In addition to incorporating a targeted universalism approach to prioritize investments and regulations in neighborhoods that have suffered disproportionate environmental exposures, "Clean Up Green Up" is also intended to address the cumulative harms those exposures have had on the people that live there, with new and expanded developments subject to standards regarding noise and lighting, landscaping and buffering treatments, and building set-backs and design features, among others intended to reduce impacts on neighborhood residents.

Efforts such as Seattle's Race and Social Justice Initiative, a citywide effort to end institutionalized racism and race-based disparities in City government, ⁶⁶ also provide a strong launching pad for this work. Tools to audit local government policies and practices, such as the city's Racial Equity Toolkit, can help local governments identify and change underlying systems and regulations that ccreate race-based disparities in environmental exposures and access to health-promoting resources like jobs, education, and housing. ⁶⁷ These efforts and tools can help identify legislative and programmatic barriers to equitable environmental and health outcomes, such as inequitable spending, ineq-

uitable decision making power, or inequitable distribution of exposure to polluting land uses, and help local governments begin to create a coordinated plan to remedy the harms stemming from them, whether through budgeting, participatory decision making, rezoning, or otherwise.

Conclusion

Failures in our environmental regulations have created environmental and health harms that are disproportionately experienced by communities of color and low-income communities. Given that disparities in environmental exposures are due to longstanding structural racism and systemic factors, a health justice approach means understanding the interconnections and interdependencies between various structural drivers of inequities and social determinants of health, such as housing discrimination, economic exclusion, environmental degradation, and political marginalization.

Governments, institutions, and communities need to work together to alter the systems and policies that perpetuate inequity, replacing them with new policies that purposefully lead to health, racial, and environmental justice, especially for those with the fewest resources and greatest exposures to pollution and other environmental health risks. Local governments can begin doing this by expanding their conception of environmental health justice work expanding their conception of environmental justice work in recognition of cumulative impacts and the complex interplay between environmental harms and other social determinants of health, such as housing, education, and economic opportunity. When so construed, environmental justice work can include a broad range of policies to advance social and racial justice, such as the adoption of living wage ordinances, expanding and defending voting rights, equitable enforcement of fair housing laws and increasing the supply of affordable housing.68

Environmental health justice is intertwined with other justice movements, sharing a focus on dismantling structural discrimination embedded in laws, policies, and government processes. As a result, it can be difficult to know where environmental health justice ends and other justice initiatives begin. Local governments working to address environmental health injustices should recognize how working on issues foundational to these other justice movements can help them broaden support for environmental health justice work. Local laws and policies that are not directly related to environmental health justice, may nevertheless help mitigate and remedy the harms of

environmental health injustices. Ultimately, a whole community approach is critical to addressing the historic roots and enduring effects of these disparities.

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