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Gaps Matter: Environment, Health, and Social Equity

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Social inequality in exposures to environmental hazards erodes environmental conditions for all people.

In recent years, public health advocates and researchers have promoted the idea that inequality is not just morally distasteful, but also potentially damaging to overall health and well-being. Among the most compelling advocates of this position have been Richard Wilkinson and Kate Pickett, who laid out the scientific evidence and policy implications in their book, *The Spirit Level: Why Greater Equality Makes Societies Stronger*. The authors argue that it is not only economic shortfalls such as poverty that impact health, but also the degree of inequality in the distribution of income and wealth that affects health, particularly in wealthier societies (Wilkinson and Pickett, 2011).

A parallel argument has evolved in economics, a field long associated with the notion of an efficiency-equity trade-off rather than an efficiency-equity complementarity. Economists at the International Monetary Fund have found that initial disparity in the distribution of income and assets is the factor most significantly associated with the inability to sustain growth

over time (Berg, Ostry, and Zettelmeyer, 2012). Economists looking at metropolitan regions in the United States have offered similar findings of the relationship between inequality and economic performance, suggesting that tackling unequal opportunity for some could have broad benefits for all (Benner and Pastor, 2015).

An emerging frontier in this new work involves examining the relationship between social inequality and environmental degradation. Specifically, social inequality in exposures to environmental hazards can erode overall environmental conditions for everyone. For example, when low-income communities and communities of color are disproportionately exposed to harmful pollution (in air and water, for example), pollution can be viewed by those not in that community as someone else's problem. This then can result in a decline in the public and political will to implement environmental policies that reduce overall pollution exposure levels and protect community health (Boyce et al., 1999). While still nascent, this new research

→ABSTRACT Environmental justice often is seen as an issue of righting disparities in the exposures of low-income communities and communities of color to toxic hazards, air pollution, and other disamenities. An intriguing new wave of research finds that when environmental costs and benefits are unequally distributed, this can diminish the collective will to address the commons and hence worsen environmental conditions overall. While more studies are needed, this suggests that centering equity can be beneficial to policies and movements for sustainability. | **key words:** *environmental justice, climate change, public health, social movements, racial generation gap*

suggests that environmental inequality can reduce environmental quality.

What Is Environmental Inequality?

Environmental inequality refers to the tendency for environmental disamenities to be disproportionately located in low-income communities of color. This long-standing concern gained national traction because of 1982 protests against the placement of a hazardous waste landfill in Warren County, North Carolina, one of the poorest counties with the greatest proportion of African American residents in the state (McGurty, 2000). The protests prompted the first nationwide study of environmental disparities in the location of treatment storage and disposal facilities, which in turn led to a new wave of research by government agencies and academic scholars (United Church of Christ Commission for Racial Justice 1987; U.S. General Accounting Office, 1983).

By 1994, President Bill Clinton signed an executive order mandating that federal government agencies (including the U.S. Environmental Protection Agency [EPA], the National Institutes of Health, and the departments of Interior and Energy) consider the potential disparate environmental burdens of their programs and enforcement activities on low-income communities and people of color (Bullard, 1996).

Despite methodological challenges raised in response to some of the earliest research demonstrating disparities (Anderton et al., 1994; Mohai and Saha, 2006), the weight of the evidence and improvements in statistical and spatial techniques indicate patterns of environmental inequities by race, income, and other socioeconomic factors (including measures of civic participation). The patterns of race- and class-based disparities in exposures to environmental hazards are something we might expect given the nature of localized sources of pollution and the persistence of residential segregation by race and income. However, it is important to note that the pattern of environmental disparity seems more pronounced by race than by income, a trend that

suggests that inequalities are not merely a function of market forces or of wealth, but also are due to structural racism and its interaction with power over processes of permitting decisions and the siting of toxic facilities (Hamilton, 1995; Pulido, 2000; Ringquist, 2005).

These deeply embedded environmental inequalities have adverse impacts on health, and much of the research has validated the concerns of community organizers worried about local environmental health issues (Morello-Frosch and Jesdale, 2006; Pastor, Sadd, and Morello-Frosch, 2004). Vibrant campaigns have sought to pressure decision makers to address the health effects on local residents of large industrial facil-

‘New research suggests that environmental inequality can reduce environmental quality.’

ities—such as refineries, chemical plants, and traffic and truck-related air pollution—and the risks associated with living near landfills and hazardous waste processors (Cole and Foster, 2001; Matsuoka et al., 2011). Advocates also have broadened their demands to include not just relief from environmental “bads” but also equal access to environmental “goods,” such as green space, fresh food, and better, affordable public transit (Pastor, Auer, and Wander, 2012).

This mobilization for environmental justice, however, can be seen as a special-interest demand, one focused on addressing disparities rather than on improving overall environmental quality. Environmental justice concerns about California’s cap-and-trade system to reduce greenhouse gas emissions were dismissed as a sideshow from the main task of addressing climate change (London et al., 2013). Yet, climate change policies to reduce greenhouse gas (GHG) emissions can yield significant public health benefits by also reducing emissions of hazardous co-pollutants, such as air toxics and particulate matter. Socioeconomically disadvantaged com-

munities are typically disproportionately exposed to these air pollutants, and therefore climate policy could also potentially reduce these environmental inequities.

For that reason, some economists and environmental justice advocates argue that efficient climate regulation requires deeper GHG reductions in areas where the health benefits of reducing co-pollutants are likely to be greatest, and that this objective cannot be accom-

‘It is important to be clear about which constituencies will be willing to fight hardest for change.’

plished with the geographically unrestricted trading characteristic of cap-and-trade, in which all GHG reductions are treated equally, regardless of location. In this case, revising specific policies to alleviate environmental burdens on disproportionately affected groups can address climate change goals and enhance short-term public health benefits. So while the equity case is strong, social movement and policy advocacy frames to address injustice can also be embedded in a broader set of concerns.

Does Inequality Make a Difference?

So what is the relationship between environmental inequality and environmental quality? Just as the need to articulate this has become more pressing in the environmental justice advocacy space, a new wave of research is offering an interesting analog to earlier research on the relationship between inequality and economic growth or public health. In one article, “Is Environmental Justice Good for White Folks?” economist Michael Ash and colleagues look at the modeled distribution of risks from facilities required to report annual pollutant emissions to the EPA (Ash et al., 2012). Looking at metropolitan areas, they found that those regions where average exposures are distributed more unequally by race or ethnicity also have higher

average exposures associated with ambient emissions for all population subgroups, including for whites.

Other research has found similar links between social inequality and environmental quality measures that can affect health and well-being, particularly in U.S. metropolitan areas. These studies include positive associations between racial residential segregation and higher exposures to cancer-causing ambient air toxics (Morello-Frosch and Jesdale, 2006) and noise exposure (Casey et al., 2017a); and the relationship between neighborhood poverty concentration and lack of green space (Casey et al., 2017b).

While the reasons are not entirely clear, this work generally echoes our political will argument above: more unequal metropolitan regions may experience a diminished collective public will to regulate and reduce pollution emissions overall, or to invest in improving green infrastructure, like urban forestry, parks, and other green spaces.

One intriguing experiment tried to directly explore the role of social cohesion in public will to address common environmental challenges. Participants were asked to play a game in which they started off with different sums of money and were asked to contribute to a public fund to prevent climate change. As it turns out, inequalities in the initial endowments of money did not impede collective action on climate change if it was thought that everyone would be affected by climate change. However, when told that the risks of harm from climate disaster were greater for low-income participants, wealthier participants in the game became less willing to part with their cash and more willing to let the planet warm (Burton-Chellew, May, and West, 2013).

Evidence and Public Will

While a recent review suggests that environmental inequality does have some impact on environmental quality—the research is just emerging and there are clear caveats to overgeneralization

(Cushing et al., 2015). For example, the negative impact of social and environmental disparities on environmental conditions is more consistent in “within-country” studies than in research comparing across countries, perhaps because it is too hard to control for differing political (and data collection) systems. In addition, the direction of causality—perhaps the higher overall pollution levels drive the disparities rather than the other way around—is not entirely settled by much of this ecological and cross-sectional empirical work.

Still, continuing to explore the relationship between environmental inequality and overall environmental conditions could enhance

‘Toxic inequality hurts our economy, our environment, and our well-being.’

our understanding about the causal relationship between social inequality and environmental health. While more research is necessary, the mounting evidence that inequality has a dragging effect on public health, the economy, and the environment suggests that policy advocates and others have ample reason to be bold about emphasizing equity concerns.

There is another reason to push concerns about environmental justice: while the general stereotype is that whites who tend to be more well off may be more concerned about the environment than other groups, polling in California suggests that African Americans, Latinos, and Asians are more positively inclined to see climate change as a serious issue and want authorities to address it (Baldassare et al., 2015). For those wanting stronger action on the environment, it is important to be clear about which constituencies will be willing to fight hardest for change.

Research and policy advocacy could benefit from a dimension of central concern to the readers of this journal: age. Older adults are markedly different than the young, not just in age, but

also demographically, which can affect public will around policy change. The “racial generation gap”—the difference between the percentage of older adults who are non-Hispanic white versus the percentage of young people who are non-Hispanic white—has been shown to have an impact on collective investments in public education: the bigger the gap (controlling for all other factors that explain levels of local spending on education), the lower the per-student investment (Pastor, Scoggins, and Treuhaft, 2017).

According to projections, the racial generation gap is now at a peak in the United States, perhaps explaining some of our polarized national politics, including around the acceptance (and lack thereof) about the reality of climate change. Interestingly, one state where the racial generation gap long ago peaked (in the 1990s) and has since been shrinking—California—is also leading the nation on addressing sustainability and environmental justice. However, with the evidence of global warming being increasingly obvious, our nation cannot wait for demographic change to steer it toward a common understanding of environmental challenges. A bigger and broader movement must be built—one that can forge ties across groups, generations, and geographies; to do this, America needs to wed the concerns of climate change and climate justice. Solid research on the linkage has a role to play.

Making Change Happen


As researchers, we have been documenting environmental disparities since the early 1990s—one of us as an intrepid and focused graduate student and the other as, frankly, a less directly interested and somewhat scattered professor. For the latter, the path to studying environmental justice was not particularly intentional; a few undergraduate assistants wanted to work on the topic and produced a solid paper that, with some guidance, landed in one of the best journals in the field (Boer et al., 1997). Immediately tagged as an expert, the professor soon attracted the atten-

tion of the grad student–turned post-doc, and a partnership was born.

Together with our long-time colleague, James Sadd, we also attracted the attention of a variety of community organizers who wanted to move the policy needle on environmental disparities and found our research helpful. What we learned working with them and with decision makers was the way in which the environmental movement had managed to advance claims of universal rights that had eluded other arenas of social justice. When decision makers and the general public heard that children of color were subjected to worse air, there was an immediate desire to do something to correct the tragedy, mostly because they saw the environment as part of the “commons” to be enjoyed by everyone in equal measure. On the other hand, when they heard that those exact same children were exposed to worse schools, over-policing, and over-criminalization, concerns were more muted.

Part of the reason we have worked on environmental justice is that we care about the environment and the communities that find themselves overexposed and socially vulnerable. But another factor has been the hope that this work would provide a path to help others to understand the ways in which structural rac-

ism and other forms of inequality affect and limit human possibilities at every step in the life trajectory. In short, advancing environmental sustainability is critical to the future of the planet, but the arc of progress must also bend toward justice and equity in order to build collective will for the social and environmental change that is necessary to get us there.

It is our hope that the emerging body of work across the fields of economics, sociology, and environmental health will contribute to an understanding of how “toxic inequality” hurts our economy, our environment, and our well-being (Shapiro, 2017). No society this unequal can function at peak performance. Indeed, the evidence points to the fact that ultimately we are in this together and must work collaboratively toward a more prosperous, sustainable, and equitable planet. 

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