

Race, Waste, and Class: New Perspectives on Environmental Justice

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Many of our readers may already be familiar with evidence suggesting that residents of poor communities and in communities of color in the United States bear a "disproportionate" burden of toxic contamination, both through the generation and release of hazardous chemicals in their neighborhoods, and via the location of waste management facilities. This is an outcome that the landmark 1987 United Church of Christ (UCC) report on toxic waste and race claimed was not the result of mere coincidence (United Church of Christ Commission for Racial Justice, 1987). Indeed, empirical evidence of disproportionate economic impact from environmental mismanagement, as well as through the regulatory response to air pollution, was already considered a decade earlier by geographers and economists, albeit without the suggestion of discriminatory intent (e.g., Berry, et. al., 1977; and Harrison, 1975).

In this special issue, our contributors consider both the evidence supporting the conclusion that race is the central determining factor with toxic exposure and, of greater consequence, they explore the political implications of such for community organizing and empowerment. Addressing the former agenda, a recent report by the U.S. Government Accounting Office examines the racial composition and income level of people living near municipal solid waste landfills and reviews research on the demographics of hazardous waste facility location. It concludes that people of color and low-income people are not over represented at nonhazardous municipal landfills and, furthermore, that ten major studies on hazardous waste facility location, including the UCC report, collectively yield an inconclusive range of results depending upon the type of facility studied, the research questions asked, the sample size used, the geographic definition of the impacted community, and the research methods employed (U.S. GAO, 1995. See also Perlin, et. al., 1995, on inconclusive data with air emissions; and Mohai and Bryant, 1992, for a contending interpretation of the existing research record suggesting race as the dominant predictor for facility location).

Geography also matters. Whether one works in the rural South, where the population is likely to be African American, in the Hispanic and Native American regions of the Southwest, or in the Northeast, Midwest, and Mountain States, where the rural population is mostly Caucasian, a utilitarian approach to siting waste repositories would drive the facility away from populated areas toward respective rural ethnic groups (c.f., Bullard 1990; and Gerrard, 1994, p. 90). The most recent major commercial hazardous waste management sitings were a landfill in Adams County, Colorado, and an incinerator at East Liverpool, Ohio, both with majority Caucasian populations, while three of the largest hazardous waste landfills, containing over forty percent of the total national permitted commercial capacity, remain in just two African American

communities (Emelle, Alabama and Alsen, Louisiana), and one Hispanic community (Kettleman City, California) (See United Church of Christ Commission for Racial Justice, 1987).

Our authors, however, are not bogged down with inconclusive demographic evidence, nor by the trendy debates spawned, such as whether class or race is a better predictor of hazardous waste facility siting; which came first, the facility or the impacted population; and whether disproportionate siting, when it does occur, results from true racism or mere market efficiency (c.f., Anderton, et. al, 1994; Been, 1994; Bullard, 1994; Hamilton, 1995; Mohai and Bryant, 1992; and Zimmerman, 1993). With ethnic and class discrimination built into the very structure of our production system, our authors recognize that people of color suffer the whole gamut of capitalist contradiction through social and economic contradiction. This is expressed through limited access to decent housing, health care, food security, employment, and education (see also Feagin and Feagin, 1978). Our contributors thereby eclipse the determination of overt intent as the principal measure for environmental discrimination and racism. Moreover, they center on the lived experience of individual participants, acknowledging the possibility of diminished response capacity among low-income and minority communities to even resist toxic exposure or to participate in pollution production decisions, whether or not the siting burden itself is somehow disproportionate.

In addition to academic duties, many of us have been busy as participants in, and advisors to, the grassroots movement for environmental justice. This is an effort by local residents to gain some control over the many attempts now underway to site hazardous and solid waste management facilities in low-income and working-class communities, very often communities of color. Here the local activists are moving away from negotiation over a tightening of pollution emissions into their communities, toward up-front pollution prevention and, by extension, toward a challenge for control over the decision to pollute in the first place. This is captured by a growing rejection of the NIMBY (or Not in My Backyard) label and their embrace, ever more common, of a NIABY (or Not in Anybody's Backyard) solidarity (Heiman, 1990). In short, and by explicit extension, the grassroots movement for environmental justice represents a populist challenge to exclusive private control of the production process itself, for pollution prevention ultimately requires production control.

We begin with Benjamin Goldman's analysis of the environmental justice movement, and his concern for its impact and future in this conservative political era. Formerly Research Director for the Jobs and Environment Campaign based in Boston, Massachusetts, Ben is in a unique position to assess evidence for environmental discrimination as he was the original data analyst for the UCC report, and has since authored many subsequent assessments (e.g., Goldman, 1991; Goldman and Fitton, 1994).

Dr. Goldman clearly positions the environmental justice movement as arising out of the anti-racist struggles of the Civil Rights Era, with many participants drawing inspiration and employing tactics from the earlier efforts. In this view, the environmental component commenced with the 1982 Warren County protest over the siting of a landfill for PCB-contaminated soils in a predominantly African-American section of North Carolina. Here over 500 were arrested for civil disobedience, including several of the movement's subsequent leaders. This identification of the environmental justice movement with the struggle against environmental racism is quite common, particularly among academics and grassroots activists of color (see Bullard, 1990; 1993; Lee, 1992; and Bryant and Mohai, 1992).

Few would deny that the anti-discrimination effort, often referred to as the quest for environmental equity, has served to put the issue of environmental justice on the map and garner public attention. However, many grassroots leaders in rural white communities, also targeted for waste repositories, argue that the environmental justice movement itself is broader. This would move beyond the procedural and distributional equity sought by civil rights activists in the anti-environmental discrimination struggle to embrace a more general anti-toxins effort concerned with the clean-up of abandoned waste sites, and now with the actual production and use of hazardous chemicals. The broader anti-toxins effort first caught public attention with the Love Canal (Niagara Falls, New York), Stringfellow (Riverside, California), and Times Beach (Missouri) sites in the late 1970s, specifically when hazardous synthetic byproducts first associated with the Second World War effort and post-war industrial expansion, began to bubble to the surface causing delayed public health impacts. Widespread public attention was also furthered through the public participation provisions of the National Environmental Policy Act (1970), and via better access to industrial release information under the federal Clean Air and Water acts (1970 and 1972), the Resource Conservation and Recovery Act (1976), and eventually through the Community Right-to-Know Act (SARA Title III) setting up the federal Toxic Release Inventory (TRI) requiring storage and emission information from major manufacturers (1986).

The determination between environmental justice and environmental equity is more than a matter of semantics. Should the quest for environmental justice merely stop with an equitable distribution of negative externalities, business could proceed as usual. This time it would be with assurance from the Environmental Protection Agency (EPA) and other regulatory agencies that we will all have an equal opportunity to be polluted--or the flip side--protected from pollution, however ineffectively. Such assurance comes complete with procedural guarantees that we may participate in the equitable allocation of this pollution and protection, if we so choose (e.g., Reilly, 1992). This is an outcome that each of our authors, and most emphatically Ben himself, would challenge as incomplete. As envisioned, environmental justice demands more than mere exposure equity. It must incorporate democratic participation in the production decision itself.

Ben successfully questions both the motivation and the procedure of various projects now underway discrediting the suggestion that environmental discrimination even occurs (e.g., Anderton, et. al, 1994; and Been, 1994). Acknowledging that waste tends to flow toward communities with weak response capacity, he furthermore warns that many of the well-intended attempts to empower communities through on-line access to chemical (TRI) release information, participation in local health risk assessments, and through access to GIS mapping and overlay procedures, may actually further disadvantage communities of color and low-income areas in the absence of meaningful technical assistance. This can occur when wealthier municipalities have the means to access these new tools to raise their response capacity, bolster their fortifications, and keep the waste out.

Facing the new political reality, Ben moves on to suggest that the future of environmental justice, however its genesis is conceived, now depends upon whether the alienated white working-class majority responds to the increasing economic and social pressures characteristic of the globalization of capital with the racial prejudice and consumer desperation courted by the Republican Right, or with the type of coalition building for sustainable development and worker rights advocated by the Gardner-Greer and Gottlieb-Fisher articles in this issue. His closing warning, that the environmental justice movement's obsession with racism as the "linchpin to

environmental injustice" actually serves the polluter's attempt to discredit the movement, leads us directly to Laura Pulido's thoughtful analysis of the incomplete conceptualization of racism among participants in the environmental justice dialogue.

A geographer based at the University of Southern California, Laura provides an overview of the genesis of the anti-environmental racism effort. Laura questions the very rationality of a debate where racism is reified as some independent attribute that can be recognized through discrete overt actions while ignoring both the ideology and the dynamic nature of its practice. This important insight calls into question the entire corpus of recent work that asks such static questions as whether race or income is a better predictor of siting decisions, and which came first, the toxic victim or the hazardous waste facility siting. As she notes, we must be aware of how the legacy of racism operates, limiting life choices, while also denying people the economic and political tools needed to challenge the institutional mechanisms of racism (See also Feagin, and Feagin, 1978).

More significantly, as Laura suggests, we must not let powerful vested production interests define the political agenda in an "either/ or" manner, where we are given a choice of race or class discrimination, jobs or environment, healthy bodies or economic development, take it or leave it. We have here in Laura's contribution a timely and practical review of race and racism as conceptualized by those involved with the dominant discourse. This review finally moves us beyond the static "chicken or egg" debate to question how inequality, in all of its forms, be it with race, class, gender, or age, is socially constructed as a necessary feature of capitalist production. Only with this insight in hand can we move on to forge a multi-cultural and counter-hegemonic alliance.

The seeds of this critique of the dominant mode of production are already emerging among activists associated with the Citizens Clearinghouse for Hazardous Waste (CCHW), Greenpeace, the Southwest Network for Environmental and Economic Justice, and with several other multi-ethnic and gender-balanced umbrella outreach organizations, even when the grassroots groups they represent are still class or racially homogeneous (see Citizens Clearinghouse for Hazardous Waste; and Environmental Research Foundation).

Professor Pulido is one of the few scholars to distinguish the anti-racist struggle from a broader environmental justice movement. Once again, the distinction is important, as there are several powerful political agenda underway that serve select interests. Laura notes those vested interests that deny racism in siting. Underscoring the political motivation behind research, Laura also accepts the agenda of community activists who focus on racism in their struggle, for the successful demonstration of such in siting decisions strengthens the attack on racism in general, while helping garner attention and material resources for the disempowered.

There may be, however, more afoot than even Laura acknowledges. On the one hand, we do find Waste Management Inc., the largest waste handler in the world, funding research suggesting that its industry is definitely not racist with siting decisions. Indeed, the University of Massachusetts scholars funded by Waste Management are so bold as to suggest that hosting a toxic waste repository may provide benefits that balance out the negative stigma attached (Anderton, et. al., 1994, p.125)! On the other hand, we also find the EPA now admitting that, at least in the past, its siting and regulatory decisions may have been inequitable (U.S. Environmental Protection Agency, 1992). This confession sets the stage for the impartial distribution of pollution. While

many scholars and even activists buy into this blurring of the environmental justice and the environmental equity movements, we must be clear where the former, environmental justice, is concerned about toxic use reduction thereby generating a radical NIABY challenge to the very control of production decisions, while the latter, the critique of environmental racism, tends to focus on more liberal process and outcome equity in siting decisions. This is a theme Robert Lake, a professor of geography with the Center for Urban Policy Research at Rutgers University, turns to in his contribution.

Reviewing the literature on environmental equity, Bob astutely notes an overemphasis with distributive justice, and an under-developed notion of procedural justice. Assuming that the public only has the right to respond to decisions that have already been made a priori by private interests and public regulators, the latter, procedural justice, typically takes the form of a well-worn liberal appeal to public participation, negotiation, and compensation schemes. The result has been a static public policy that can not move beyond cosmetic change in the distribution of environmental problems across communities and dares not challenge control of the decision to pollute, and thus produce, in the first instance.

As with Ben Goldman, who portrays the environmental justice movement as a gnat on the back of a conservative elephant, Bob also paints a rather pessimistic picture, where marginalized communities, once their equity concerns are addressed, may be less interested in supporting a democratic challenge to local investment and production decisions. Turning this prognosis on its head, however, we have to question whether it is reasonable to lay the burden for social challenge against the forces of capitalist production at the feet of materially disadvantaged communities. If the negative externalities of industrial production are now to be more equitably distributed, we might instead find protest arising in wealthier communities so targeted. Indeed, the modern environmental movement, at least in its regulatory mode, can be traced to a middle-class awakening that the pollutants of industrial production were no longer limited to already-blighted, working-class, inner-city neighborhoods--a realization arising from the publication of Rachel Carson's *Silent Spring* (1962) documenting the ubiquitous spread of pesticides throughout everybody's food chain. As anticipated from the basic contradiction for capitalism between the social nature of production and its private appropriation, solutions will be offered--such as the sanctity of residence space or "nature" as a refuge from the forces of production--that can only be temporary given necessary requirements for economic expansion. As such, revolutionary consciousness may arise among those very classes that materially benefit from the existing social structure of production, however long, drawn-out, and painful in the interim this awakening may be (Heiman, 1988).

Professor Lake notes that we will not have eliminated environmental inequity, let alone the process generating it, if well-intending regulatory agencies just succeed in moving the waste around. As he demonstrates through several case studies involving waste management proposals for impoverished communities, procedural equity must encompass a process of community empowerment leading to self-determination. This should include full participation in prior decisions affecting the production of both the costs, and the benefits, to be distributed. Thus Bob also leads us beyond the static "chicken or egg" and market efficiency arguments, for if we accept environmental equity (leading to environmental justice) as self-determination, unencumbered by neighboring decisions, then even without a disproportionate siting burden, we can still have inequality occurring where there is a lack of such local control.

Bob lays before us a daunting challenge, to devise an institutional structure through which the principle of self-determination occurs without denying others their own path, as for example through the parochial exclusion or the volunteerism that impact beyond municipal borders. We might add that this quest is further complicated by questions of individual rights and intra-community power relations, where designated representation may no longer represent community values, a situation particularly apparent on many Native American reservations and increasingly common among communities fractured through threats to environmental health.

This organizing challenge is picked up by Berkeley geographer Florence Gardner, and community organizer Simon Greer, both labor activists currently working in South Carolina. As local organizers, Gardner and Greer are concerned with building a broad, multi-racial and multi-issue working-class alliance that challenges the hegemonic control of local politics by vested production interests, while also providing a base for broader, state-wide resistance to the dominant conservative agenda. They appear to have found such a model in the Carolina Alliance for Fair Employment (CAFE), a worker-controlled, multi-racial, and gender-balanced umbrella organization that has had a stunning series of victories across South Carolina with labor, housing, and environmental battles. As they suggest, CAFE's success in no small measure lies with the ability to provide a larger social structure for local struggles, a structure that directly questions both the power and the ideology of ruling political and economic elites so long dominant in the state.

The fact that CAFE is worker-based is not surprising, given the legacy of racial segregation with residence in the South, and the generally higher levels of integration in the workplace. Much of the environmental movement has been residence-based, with activists mobilized by perceived threats to their place of residence or, if you will, their space for consumption and reproduction. CAFE, on the other hand, provides a model where social and ethnic barriers, long the bane of community organizing, can be overcome through reference to the workplace experience, even as the agenda reaches to such consumption issues as housing access and, in the case before us, recreational opportunities. The Highlander Center based in New Market, Tennessee, Los Angeles' Labor/Community Strategy Center, New York State's Labor & Environment Network, and the Southern Appalachian Labor School in West Virginia, provide other well-known models for worker-centered, multi-issue, and socially balanced organizing in racially segregated regions.

As with Ben Goldman, Gardner and Greer take aim at the conservative right-wing agenda currently sweeping the nation. While the ideology spawned tends to further environmental discrimination, with its support for a devolution of regulatory power to the states, deemphasis on affirmative action, and support for private property rights (or at least those of production interests), we must remember that capital interests are not unified in their support for this political agenda. Indeed, large-scale capital interests active across many states and regions have already raised concerns, as evident through numerous editorials in *Business Week* and other popular mouthpieces for liberal capital concerns. It is just these multi-locational interests that are most prone to accept the environmental discrimination argument, as they seek to locate wherever the political and social climate has been prepared though fair-share arguments. The appropriate response then, by toxic victims and the working class, would be to recapture and steer the populist alienation and backlash toward progressive community empowerment at the local level, while building a critique of the pernicious parochialism of the conservative agenda. As significant, these groups must also challenge the liberal ideology at the national and international levels through reference to toxic use reduction and democratic participation in

production decisions, and avoid collusion over fair-share allocation of the negative externalities generated. The Labor/Community Strategy Center, and CAFE in South Carolina, provide just such models, linking production with consumption concerns and avoiding the "either/ or" choices that compromise a progressive agenda.

Robert Gottlieb and Andrew Fisher, both with the Urban Planning Program at UCLA, provide another model for community empowerment, this time with the production of a safe and sustainable food supply. Like Gardner and Greer, Gottlieb and Fisher also demonstrate that the struggle for environmental justice is not isolated, but rather is tied in with daily quality of life issues, such as access to housing, health, recreation, and food. They provide an example from South Central Los Angeles, where the community group active against the proposed siting of a solid waste incinerator successfully managed to broaden the agenda to consider local economic and social development (see also Blumberg and Gottlieb, 1989). This broadening is common with "garbage wars," for the struggle against landfills and incinerators leads many to consider labor-intensive recycling alternatives. On the other coast, in Brooklyn's Williamsburg/Greenpoint neighborhood and in the South Bronx, in Northeast Philadelphia, and elsewhere, community activists have also moved the anti-incinerator agenda to consider recycling, sustainable "green industries," and now community open-space and gardening programs (e.g., New York City, Department of Environmental Protection, n.d.; Lewis, et. al, 1992; and Center for Neighborhood Technology)

As Bob and Andrew suggest, the food security movement is tied in with the entire web of human existence, incorporating household income, family farming, transportation, commodity markets, food safety (especially from pesticide poisoning), urban greening, and international trade agenda. They note that organized environmental justice groups have, as yet, not played a major role in the various food and farm bills before Congress. While this absence is due, in part, to the many divisions within the food security agenda--such as between urban consumers and rural farmers over prices and labor practices--and to a basic lack of faith in federal Beltway politics by grassroots activists, Bob and Andrew go further to recommend that food security serve as the organizing principle for a reinvigorated grassroots effort at sustainable development.

The food security movement promises a more comprehensive geographic awareness for participants as they challenge the national, and now international, trade in food products and the spread of pernicious labor practices. It might, however, better compliment, rather than replace, an emerging "green industries" initiative now common in many urban areas as a response to the forced choice between jobs and environment, or over local waste siting proposals (See Lewis, et. al., 1992; and Center for Neighborhood Technology). Combining the two, food security and green industries, the former can help to uncover cases where a so-called "green" industry is actually contaminating the local food supply and threatening public health (e.g., recycling is not an unqualified "good"), while the latter, in the form of farmer's markets tied to local food processing facilities, certainly furthers the green agenda for economic and environmental sustainability. In this process, access to shelter, health care, and job security are other necessary, and complimentary, goals.

So, in the final analysis, this issue's contributors agree that the central issue for environmental justice involves community empowerment to further access to resources necessary to take an active role in decisions affecting one's life. In addition to participation in production decisions, this would include community responsibility for basic environmental monitoring and health

surveys (Heiman, 1995). In this process, we must keep in mind that the common-sense knowledge about environmental equity, conflict resolution, fair-share allocation, negotiated settlement, and the other blandishments of the liberal reform effort tend to support the status quo, where officially sanctioned knowledge in a class-stratified society serves vested interests. Our goal then is to document and support an alternative base of knowledge among the lived experience of oppressed people residing and working among the toxic contamination of industrial society. If we settle for liberal procedural and distributional equity, relying upon negotiation, mitigation, and fair-share allocation to address some sort of "disproportional" impact, we merely perpetuate the current production system that by its very structure is discriminatory and non-sustainable.

The road ahead will not be easy with the globalization of capital hindering solidarity and union formation, and a new conservative political climate giving corporate polluters the upper hand. Many of the national umbrella coalitions serving the grassroots groups are also downsizing for lack of funds (e.g., the Jobs and Environment Campaign, CCHW, and Greenpeace). Nevertheless the inherent contradiction for capitalism, one demanding structural change, will not go away. Ever more poor and working-class people are waking up to the realization that the current production process no longer serves their needs. In this climate there is no substitute for basic organizing as the best way to challenge corporate hegemony. The authors in this special issue provide abundant evidence for the wisdom of the alternative path.

REFERENCES

- Anderton, D., et. al. (1994) Hazardous waste facilities: "Environmental equity" issues in metropolitan areas. *Evaluation Review* 18 (2): 123-140.
- Been, V. (1994) Unpopular neighbors: Are dumps and landfills sited equitably? *Resources* No. 115 (Spring): 16-19.
- Berry, B., et. al. (1977) *The Social Burdens of Environmental Pollution: A Comparative Metropolitan Data Source*. Cambridge, MA: Ballinger.
- Blumberg, L. and R. Gottlieb (1989) *War on Waste*. Washington, DC: Island Press.
- Bryant, B. and P. Mohai (Eds.) (1992) *Race and the Incidence of Environmental Hazards: A Time for Discourse*. Boulder, CO: Westview Press.
- Bullard, R. (1990) *Dumping in Dixie: Race, Class, and Environmental Quality*. Boulder, CO: Westview Press.
- Bullard, R. (Ed.) (1993) *Confronting Environmental Racism: Voices from the Grassroots*. Boston, MA: South End Press.

Bullard, R. (1994) A new "chicken-or-egg" debate: Which came first--The neighborhood, or the toxic dump? *The Workbook* (Published by the Southwest Research and Information Center, Albuquerque, NM) 19(2): 60-62.

Carson, R. (1962) *Silent Spring*. Boston: Houghton Mifflin.

Center for Neighborhood Technology, (various dates) *The Neighborhood Works* (bimonthly). Chicago, IL.

Citizens Clearinghouse for Hazardous Waste (various dates) *Everyone's Backyard* (quarterly). Falls Church, VA.

Environmental Research Foundation (various dates) *Rachel's Environment & Health Weekly* . Annapolis, MD.

Feagin, J. and C. Feagin (1978) *Discrimination American Style: Institutional Racism and Sexism*. Englewood Cliffs, NJ: Prentice-Hall.

Gerrard, M. (1994) *Whose Backyard, Whose Risk: Fear and Fairness in Toxic and Nuclear Waste Siting*. Cambridge, MA: The MIT Press.

Goldman, B. (1991) *The Truth About Where You Live: An Atlas for Action on Toxins and Mortality*. New York: Random House.

Goldman, B. and L. Fitton (1994) *Toxic Wastes and Race Revisited* : Washington, DC: Center for Policy Alternatives.

Hamilton, J. (1995) Testing for environmental racism: Prejudice, profits, political power? *Journal of Policy Analysis and Management* 14 (1): 107-132.

Harrison, D., Jr. (1975) *Who Pays for Clean Air: The Cost and Benefit Distribution of Automobile Emission Standards*. Cambridge, MA: Ballinger

Heiman, M. (1988) *The Quiet Evolution: Power, Planning, and Profits in New York State*. New York: Praeger.

Heiman, M. (1990) From not in my backyard!' to not in anybody's backyard!' grassroots challenge to hazardous waste facility siting. *American Planning Association Journal* 56 (3): 359-362.

Heiman, M. (1995) Science by the people!: Grassroots environmental monitoring and the debate over scientific expertise. Paper presented at the 91st Annual Meeting of the Association of American Geographers, March 14-19, 1995, Chicago, IL.

Lee, C. (1992) Toxic waste and race in the United States. In B. Bryant and P. Mohai (Eds.) *Race and the Incidence of Environmental Hazards: A Time for Discourse* . Boulder, CO: Westview Press, pp. 10-27

Lewis, S., et. al. (1992) *The Good Neighbor Handbook*. Acton, MA: The Good Neighbor Project of the Center for the Study of Public Policy.

Mohai, P., and B. Bryant (1992) Environmental injustice: Weighing race and class as factors in the distribution of environmental hazards. *University of Colorado Law Review* 63(1): 921-932.

New York City, Department of Environmental Protection (n.d.--c. 1994) *Greenpoint/Williamsburg Environmental Benefits Program*. New York City: NYC DEP, Office of Environmental Quality.

Perlin, S., et. al. (1995) Distribution of industrial air emissions by income and race in the United States: An approach using the Toxic Release Inventory. *Environmental Science & Technology* 29(1): 69-80. Reilly, W. (1992) Environmental equity: EPA's position. *EPA Journal* 18(1):18-22.

United Church of Christ Commission for Racial Justice (1987) *Toxic Wastes and Race in the United States: A National Report on the Racial and Socio-Economic Characteristics of Communities with Hazardous Waste Sites*. New York: United Church of Christ Commission for Racial Justice.

United States Environmental Protection Agency (1992) *Environmental Equity: Reducing Risk For All Communities* (2 vols.). Washington, DC: Environmental Equity Workgroup, Office of Policy, Planning, and Evaluation, USEPA.

United States General Accounting Office (1995) *Hazardous and NonHazardous Waste: Demographics of People Living Near Waste Facilities*. Washington, DC.

Zimmerman, R. (1993) Social equity and environmental risk. *Risk Analysis* 13(6):649-666.

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