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# The locality of waste sites within the city of Chicago: a demographic, social, and economic analysis

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## Abstract

In 1987, the United Church of Christ (UCC) released *Toxic Waste and Race in the United States: A National Report on the Racial and Socio-economic Characteristics of Communities with Hazardous Waste Sites* (1987) which stimulated substantial research and activism concerning the disproportionate exposure of minorities to environmental hazards. The current study responds to many of the deficiencies of previous research by integrating the demographic history with an empirical analysis of the distribution of hazardous waste in a major American industrial city. Two hypothesis are tested: (1) contemporaneous disproportionate exposure, and (2) discriminatory intent in waste siting decisions. Interestingly, there is evidence that Hispanics are disproportionately exposed, but there is not evidence of disproportionate exposure to the most dangerous hazards for African Americans either currently or historically. © 2002 Published by Elsevier Science B.V.

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## 1. Introduction

The distribution of environmental hazards among urban populations has long been a topic of concern, and George S. Tolley was among the first scholars to formulate specific economic research criteria to respond to public discussions and concerns (Tolley and Gardner, 1979). His assessment of popular concerns and the need to pursue rigorous methodological inquiries into the causes for and effects of these concerns are as pertinent

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today as when he stated them in the late 1970s. This paper follows his vision: thoughtful, historically informed quantitative analysis of contentious and divisive urban policy issues.

On 11 February 1994, President Clinton mandated that every federal agency “make achieving environmental justice part of its mission . . .” (Clinton, 1994). Since its inception in 1982, the environmental justice movement has prompted substantial research into the relationships between the distribution of environmental hazards and demographic patterns, and the possibility of disproportionate impact upon minorities and the poor. This study reviews previous environmental justice research, addresses key important methodological issues, and then implements the preferred methodology in a historical and empirical investigation of environmental justice in the city of Chicago.

The environmental justice movement originated in 1982 when a large demonstration to stop the location of a polychlorinated biphenyl (PCB) disposal site in predominantly African American Warren County, North Carolina brought together activists concerned with the siting of environmental hazards (Godsil, 1991). The next year, the United States Government Accounting Office released a report that found three of four major hazardous waste facilities in the southeast were located in areas that were primarily occupied by African Americans (Mealy, 1990). Reverend Benjamin Chavis and Charles Lee, both participants in the 1982 demonstration, co-directed the publication of the United Church of Christ (UCC) Commission for Racial Justice report, *Toxic Waste and Race in the United States: A National Report on the Racial and Socio-economic Characteristics of Communities with Hazardous Waste Sites* (UCC, 1987).

*Toxic Wastes and Race*, updated in 1994 (Goldman and Fitton, 1994),<sup>1</sup> provided the first systematic study of environmental justice. During its press release at the National Press Club in 1987, Reverend Benjamin Chavis coined the term “environmental racism,” referring to the discriminatory siting of hazardous waste sites in predominantly minority communities (Mealy, 1990). The 1987 report used 1980 census data in two evaluations: a statistical analysis of the location of 415 hazardous waste treatment, storage, and disposal sites (TSDs), regulated under the Resource, Conservation, and Recovery Act (RCRA); and a descriptive analysis of uncontrolled hazardous waste sites regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The UCC study used means comparisons, matched pair means tests, and discriminant analysis to examine whether zip-code areas with no waste sites were demographically different than those with waste sites. The study concluded that “communities with greater minority percentages of the population are more likely to be the sites of commercial hazardous waste facilities” and that there is “an inordinate concentration of uncontrolled toxic waste sites in African American and Hispanic communities, particularly in urban areas.” This study is the most widely cited study that provides evidence of environmental racism.

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<sup>1</sup> The 1994 update, *Toxic Waste and Race Revisited: An Update of the 1987 Report on the Racial and Socio-economic Characteristics of Communities with Hazardous Waste*, studied “off-site” RCRA transfer, storage, and disposal facilities (facilities which received waste from other facilities for processing). This national study employed means tests and found that minority percentages in zip-code areas increased as the number of facilities per area increased and that the percentage of minorities in areas with facilities had increased from 1980 to 1993.

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