

Street Science:

The Fusing of Local and Professional Knowledge in Environmental Policy

by

Jason Corburn

Submitted to the Department of Urban Studies and  
Planning in Partial Fulfillment of the Requirements for the  
Degree of Doctor of Philosophy in Urban Planning

ABSTRACT

This dissertation analyzes how local knowledge improves environmental decisions. The premise is that controlling pollution and addressing public health disparities are not problems that professionals alone can solve. Concerned lay publics, especially low-income populations and people of color that experience the greatest environmental health risks, are demanding a greater role in describing, researching and prescribing solutions for the hazards they face. Seeking environmental justice, these communities are demanding to “speak for themselves,” often drawing on their first hand experience—here called local knowledge—to challenge expert-lay distinctions and how professionals define and prioritize which problems warrant attention. Community participation in environmental decisions is putting pressure on policy-makers to find new ways of fusing the expertise of professional scientists with insights from the local knowledge of communities. This dissertation asks how the local knowledge of community members can improve environmental decision-making? In answering this question, I explore the ways residents of the Greenpoint/Williamsburg neighborhood of Brooklyn, New York, are organizing and using their knowledge of local environmental and health hazards to both improve local conditions and influence the judgments of professionals. In particular, this study analyzes how local knowledge was fused with professional insight in four neighborhood environmental health problems: (1) risks from subsistence fish diets; (2) asthma afflicting the Latino population; (3) childhood lead poisoning; and, (4) the mapping of air pollution sources. Through these cases, I describe local knowledge, reveal how it differs from professional knowledge, show the different contributions it makes to environmental politics, and highlight some conditions that contribute to the successful professional uptake of local knowledge. Ultimately, I show that local knowledge can improve environmental policy making in at least four ways: a) *epistemology* – adding to the knowledge base of environmental policy; b) *procedural democracy* – including new and previously silenced voices; c) *efficiency* – providing low cost policy solutions; and, e) *distributive justice* – highlighting inequitable distributions of environmental burdens.

Dissertation Supervisor: Lawrence E. Susskind

Title: Ford Professor of Urban and Environmental Planning