



Why a Well-Designed Co-Production Policy Process Can Facilitate Environmental Solutions – Even in Marginalized U.S. Communities

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Air pollution can have many sources, including emissions from industrial facilities and waste generation. It is one of the biggest threats to the environment and has been linked to heart and respiratory diseases—and death. Worldwide, over 6.5 million people die annually from exposure to polluted air, and this number is expected to increase without policy interventions. One of the main barriers toward advancing pollution control is that various stakeholders' goals and contributions often conflict with one another to create environmental dilemmas. Seeking profits, for example, industrial manufacturers often ignore the public health impacts of pollution in surrounding neighborhoods. The U.S. Environmental Protection Agency (EPA) favors regulation—despite some economic impacts—to protect communities where manufacturers operate. Marginalized residents and non-government organizations strive to influence those in positions of power in both industry and government to act with the public good in mind and curtail pollution.

Many air pollution hotspots, like Rubbertown in Western Louisville, Kentucky, are historically home to low-income families and people of color. Indeed, Black and Latino communities that experience lower socioeconomic status consistently bear a disproportionate burden of exposure to pollution. For example, 61% of the total population located within one mile of the Rubbertown industrial area (hosting 11 chemical plants and waste facilities) is Black. The disempowerment and economic marginalization of these residents makes it hard for them to persuade industrial and government actors to implement effective solutions. In addition, lack of coordination among key actors raises industrial operating expenses and burdens government and communities with the burden of filing lawsuits. Such inefficiencies, injustices, and lack of coordination are the primary reasons why another approach—called co-production—could benefit all concerned.

Design Principles for Co-production of Environmental Public Goods

Co-production refers to the sometimes collaborative, sometimes conflictual process by which multiple stakeholders work together to understand the underlying causes of a socio-environmental problem and find adaptive ways to manage it. The process can take various forms such as government-led roundtables or task forces that engage the business and nonprofit communities. Elinor Ostrom, former Distinguished Professor of Political Science, and Co-director of the Vincent and Elinor Ostrom Workshop in Policy Analysis at Indiana University identified several design principles for a successful co-production process:

- The boundaries of the environmental dilemma must be identified and known to all key stakeholders.
- All key stakeholders affected by the dilemma must communicate regularly and make important management decisions together. Shared decision making often results in mutual understanding, better problem-solving, and agreements to manage the situation.
- Stakeholders must find ways to monitor the environmental dilemma and each other's behaviors to ensure that everyone is complying with rules and agreements.
- Stakeholders must have effective ways to enforce their agreements, resolve conflicts before they escalate, and punish repeated violators.
- Solutions must be tailored to the local context and the costs and benefits of managing the situation must be shared equitably among all parties.

Recommendations for Successful Co-Production of Environmental Management

Like many other social-ecological dilemmas, air pollution is difficult to pinpoint, spans multiple geospatial boundaries, and involves numerous stakeholders with different roles. Understanding those roles is key to successful co-production. Residents in industrial areas are often most directly exposed to air toxins and, therefore, most motivated and best positioned to understand and address those issues; therefore, residents are well-positioned to monitor government agencies to ensure they fulfill their duties. Industrial actors are charged with basic compliance and engaged in more proactive, voluntary forms of cooperation, such as pre-emptive remediation actions, public reporting, and forming cooperative networks with their peers to reduce pollution. Governments are called upon to use their formal authority, financial resources, and legislative and regulatory powers to create enabling conditions for co-production. This facilitation entails creating public policies and funding opportunities, being willing to partner with stakeholders, and removing legal barriers that hinder self-organization and collaborative problem-solving among key stakeholders. City, state, and regional governments can discourage environmental racism through better long-term planning by creating pollution control districts, task forces, enforcement programs, strategic plans, and formal agreements that institutionalize partnerships,

Prior research indicates that enforcement of environmental regulations is typically more effective when combined with shared and collaborative decision-making. The effects of combining principles are further enhanced when actors are given appropriate authority, responsibility, or operational resources to act as desired. Equitable cost and benefit sharing is equally important, or resentment and financial conflict may undermine efforts. For example, in Louisville, Kentucky, a history of inequitable costs of industrial pollution to West End residents has created severe resentment, conflict, and distrust of the city. These tensions are only now beginning to be alleviated, with recent enforcement of chemical industry air quality violations.

Co-production is not a cure-all and it is often difficult to determine how to implement in a specific case. The design principles should therefore be used as general guides not rigid policy prescriptions. Stakeholders should also collaboratively evaluate whether there are deficiencies in communication, shared decision making, enforcement, balance of costs/benefits, authority, and responsibility. Yet one thing is clear: Because government policymakers have unique authority to bring everyone together for co-production, they should take the first step in setting the table.