

PERSPECTIVE

The Brownfield Professional Team

Kelly Tzoumis,
Susan F. Bennett

Successful redevelopment of lands with perceived or real contamination and left idle are commonly termed *brownfield sites*. These sites often require redevelopment that should consider the site's broader social, political, and economic setting. The parcel of land, which can range from a rural community to an urban neighborhood, is part of a larger ecosystem both scientifically and socially. Most of the urban brownfield literature focuses on the loss or underutilization of the property's function and resulting loss in economic value, sometimes neglecting this large social context of the location of the property.

This Point of View looks at brownfield sites in a larger context than mere economic potential. We discuss the importance of building a team of diverse professionals to work on brownfield sites to capture other vital components, such as the broader social, political, and cultural foundations of the neighborhood. We recommend that technical specialists in the environmental sciences, real estate and finance experts, and social scientists who understand the potential impacts (including displacement, particularly during the emerging community after redevelopment) be included on the team addressing redevelopment of a brownfield site. This Point of View also includes some examples on how this training can begin at the university level to prepare environmental professionals for the brownfield employment sector.

The Brownfield Redevelopment Sector

Brownfield redevelopment has been, and continues to be, an important sector for the environmental professional and is a potential growth area into the future, given the associated benefits that studies have documented (Northeast-Midwest Institute, 2008). There are some important in-

dicators of this employment sector for environmental professionals. The United States (US) General Accounting Office (2004) estimated that there are between 450,000 and one million brownfield sites in the US. According to the Northeast-Midwest Institute (2008, p. 15), the mean size of a brownfield site (excluding gas stations, which are typically focused on underground storage tank removals or dry cleaners) is estimated to be 5–6 acres, with an average investment of about \$20 million and approximately 80 permanent full-time jobs (for those projects that include employment-producing projects). Another indicator of the permanence and longevity of this employment sector for the environmental professional comes from the US Environmental Protection Agency (EPA). At the national level, the EPA (2008) estimates that 48,950 sites have been remediated under the state voluntary cleanup programs across the US. These cleanup sites often include what states consider to be brownfield sites, so the state cleanup programs serve as a crude policy barometer for quantity of brownfield work. The Northeast-Midwest Institute (2008, p. 45) estimates that the total investment from the voluntary cleanup sites includes approximately 1.9 million jobs at the sites, with a total investment of \$703 billion and 661,000 households accommodated. Thus, the environmental professional can look to brownfield redevelopment (whether with or without remediation required) as a viable and potential employment sector now and into the future. The next question is, what type of training, education, and approach can be used to prepare professionals for the brownfield practice? Two aspects of this question that we explore in the following sections are the need for an interdisciplinary team of environmental professionals, and the utility of educational experience of college students that simulates the complexity and need for interdisciplinary training of brownfield professionals.

The Need for an Interdisciplinary Team of Professionals and the Role of Social Equity

Brownfield sites are rarely identical in size, contamination, land use, history, or other

factors. In addition to the uniqueness of each parcel, brownfield redevelopment is complex because of the nature of this policy arena. In the US, it is complicated by the nature of federalism and interagency cooperation required from the pluralistic system of government. The brownfield literature frequently discusses the complexity of planning and implementation required for even small sites. For instance, several studies focus on individual cases that have been successful in redeveloping a community. Most studies refer to the barriers of environmental legislation (like Superfund) at the national level, liability risks for lenders and consultants at the local level (Jaconetty, 1999; Powell, 1998), and the quagmire of local and state regulations that demand interagency cooperation at several levels of government even with the advancement of environmental assessment technologies to reduce the risks involved (Munroe and Tzoumis, 2000). Many articles target increasing economic incentives (e.g., with tax increment financing) and reducing regulatory burdens to reduce the uncertainties associated with brownfield development (Bacot and O'Dell, 2006; McCarthy, 2009; Wright, 1997).

Brownfield development, therefore, demands a team of professionals from a multitude of disciplines, perhaps even more so than many other environmental projects. At a minimum, the brownfield team requires expertise from areas such as real estate, finance investment, legal and intergovernmental relations, communication and public relations, environmental sciences, and technical specialties, depending on the specific nature of the site and the project management. Each of these professionals brings to the team a unique set of skills essential for the different stages of brownfield planning and implementation. One professional often forgotten in these projects is the social scientist who understands the context and history of urban policy issues. This type of professional is able to synthesize information from different experts and apply it to the brownfield's community when considering the possible impacts of redevelopment. In particular, this professional can assist with the issues of social equity and environmental justice.

An area of increasing concern for urban brownfield redevelopment is the environ-

mental justice that impacts low-income and minority communities, which are often underrepresented in the larger political or regional perspective. Adding social equity questions complicates an already complex decision; the literature and case studies provide insufficient guidance for practitioners on these issues, and few university classes are offered that tie redevelopment to issues of environmental justice. Adding to this, government agencies have not provided sufficient guidance at how to measure disproportionate impacts for environmental justice purposes even with the requirement to assess these impacts in all environmental impact statements since 1994 under Executive Order 12898. Assessment of the social equity issues involved in redevelopment requires examination of communities adjacent to the redeveloped site to determine both direct and indirect impacts from the project. The brownfield team must grapple with questions that include larger issues for the brownfield community, such as the following: What is the economic status and racial-ethnic background of residents? What other factors affect the attractiveness of the site? What are the likely spillover effects (both positive and negative) of the brownfield redevelopment to surrounding communities? How will redevelopment effect ongoing development (and disinvestment) in the city?

Without consideration of social equity, two results are likely in brownfield redevelopment. First, those sites with the most attractive locations will be redeveloped, meaning that locations within low-income or minority communities are less likely to be developed. In other words, even though brownfields are more common in such communities, brownfield redevelopment is unlikely to result in improvements for these communities (McCarthy, 2009). Second, brownfields in low-income or minority communities are more likely to be redeveloped if there are compensating attractive factors, such as attractive waterfronts and a location near a developing central business district. Environmental remediation makes the site attractive to middle-class residents and businesses, often resulting in gentrification. In other words, efforts of organizations and residents in low-income, minority communities to reduce environmental pollution may have the unintended effect of displacing the

original residents and thus undermining the goal of reducing environmental injustices (Lees, Slater, and Wyly, 2008). These types of considerations can be overlooked without an interdisciplinary approach toward redevelopment.

Preparing the Brownfield Professional

Suggesting that brownfield teams are built for the redevelopment planning and implementation of each project also requires the preparation of the individual professional on the team. One way this can take place is within the college classroom. For instance, two approaches used to prepare the future brownfield practitioner, regardless of his or her individual major or discipline, is to expose students to simulations and case studies that will reflect the reality of a future brownfield project. We have done this in two different class formats and observed informally, but directly, how students process and participate together at dealing with brownfield issues and the considerations we raised about environmental justice, social equity, and gentrification. First, specialized courses in brownfields can be offered that can be attractive to the types of students recommended to compose the interdisciplinary team. A course on Brownfield Development and Policy, or Land-Use Redevelopment Policy, and other permutations can be offered for undergraduate students, who can include a diversity of majors from real estate, finance, business, environmental science, and policy (including political and social sciences) that would reflect the interdisciplinary team in the workplace for a brownfield site. This was implemented in the fall term at DePaul University in Chicago in 2006. Students were required to work on a case study of a local brownfield in Chicago and presented a simulation of a real case study funded by the Real Estate School at DePaul University. The very informal observations showed that students approached the simulation based on their training in the course, but predominately based on their major in college. Thus, issues of concern for displacement and gentrification negative feedbacks to a community were raised primarily by the policy and social scientists in the course while real estate

and finance majors focused on the implementation of funding for the developer and negotiations with the lenders. The students were interested in the approaches taken by the diverse group of majors that highlighted different aspects of the development project. However, taking a course in brownfield policy and being a major in social science alone may not be enough for students to include the concerns of social equity in redevelopment plans.

A complementary course required students to conduct research projects on the processes of redevelopment (i.e., gentrification) in urban neighborhoods by undergraduate majors in Public Policy Studies. When last offered in spring 2009, several students chose to examine the relationship between brownfields and gentrification in the City of Chicago, though the issues raised here apply to all brownfield sites. As students of public policy, all participants were aware of the controversy regarding displacement caused by gentrification. Given the established dominance of the market in housing, however, most students viewed displacement (when it occurred) as an unfortunate consequence for some residents, but one that was outweighed by the general benefits to the city. Their perspective was bolstered by three factors: (a) the apparent common sense of the general benefits arising from gentrification to be shared by all city residents; (b) the cost-benefit analyses often used by policy analysts that assesses total costs and benefits, but rarely considers the identify of those bearing the costs or reaping the benefits; and (c) the general acceptance of the entrepreneurial role of local governments within our current neoliberal regime.

Conclusions

Often the view that an increase in housing values is a measure of neighborhood revitalization is the only goal and impact to a community that is focused on by the redevelopment team. A recent report from the Northeast-Midwest Institute (2008), for example, follows this practice. The report notes that studies generally indicate an increase of 5%–15%, but it also notes that in projects involving changes in land use (usually from industrial to parks or mixed use) the increase can be substantially larger. And,

as the report also notes, redeveloped brownfields are increasingly being used for residential and mixed-residential purposes, suggesting that larger increases in property values are likely in future redevelopment projects.

Even with students in a college classroom, it is difficult to focus their attention on the social equity issues involved in using governmental resources to redevelop land and allowing private developers to determine the use for that land. Students easily accept the need for government to provide resources to attract private investments for brownfield redevelopment, but find it problematic to agree that government should also play a role in determining the final use of the redeveloped land. Yet, just as environmental cleanup is a public good that requires governmental subsidies, social equity is a public good that requires governmental intervention. If social equity is to be incorporated into policy considerations, students need instruction on the importance and legitimacy of this goal, the need for government involvement, and appropriate means of analysis. Without such instruction, the negative consequences of earlier urban development attempts are likely to be repeated in brownfield development. In other words, students who plan a career in environmental issues need to know the social and political factors that influence the outcomes of environmental

policy, as well as the scientific and economic factors more commonly included in their training. They should also be aware of a broader set of goals for public policy beyond the typical goals of efficiency and profitability that are the focus of a neoliberal regime. The prevailing doctrine of neoliberalism stresses the market as the best mechanism for allocating resources and minimizes both the role of government and the significance of the public good. Recent events are providing lessons in the limitations of that approach.

References

- Bacot, H., and C. O'Dell. 2006. Establishing Indicators to Evaluate Brownfield Redevelopment. *Economic Development Quarterly* 20(2):142–161.
- Howland, M. 2003. Private Initiative and Public Responsibility for the Redevelopment of Industrial Brownfields: Three Baltimore Case Studies. *Economic Development Quarterly* 17(4):367–381.
- Jaconetty, T.A. 1999. Revitalizing Urban Brownfields: A National, State, and Local Effort to Reclaim Blighted Properties. *Assessment Journal* 6(4):56–67.
- Lees, L., T. Slater, and E. Wyly. 2008. *Gentrification*. Routledge, New York, 303 pp.
- McCarthy, L. 2009. Off the Mark? Efficiency in Targeting the Most Marketable Sites Rather Than Equity in Public Assistance for Brownfield Redevelopment. *Economic Development Quarterly* 23(3):211–228.
- Munroe, J., and K. Tzoumis. 2000. Conquering the Brownfields Frontier Through the Deployment of Environmental Assessment Technologies. *Public Works Management and Policy* 1(3):213–223.
- Powell, F. 1998. Amending CERCLA to Encourage Brownfields: Issues, Concerns, and Recommendations. *Journal of Urban and Contemporary Law* 53:113–142.
- US Conference of Mayors. 2008. *Recycling America's Land: A National Report on Brownfields Redevelopment*. Washington, DC, 51 pp. Available at http://usmayors.org/76thWinterMeeting/release_012408b_report.pdf.
- US Environmental Protection Agency (EPA). 2008. *State Brownfields and Voluntary Response Programs*. EPA, Washington, DC, 250 pp. Available at http://epa.gov/brownfields/pubs/st_res_prog_report.htm.
- US General Accounting Office. 2004. *Brownfields Report, Stakeholders Report*. Government Printing Office, Washington, DC, 48 pp.
- Wright, J. 1997. *Risks and Rewards of Brownfield Redevelopment*. Lincoln Institute of Land Policy, Cambridge, MA, 32 pp.

Address correspondence to: Kelly Tzoumis, Professor and Chairperson, Department of Public Policy Studies, DePaul University, 2352 N. Clifton Ave., Clifton 150 23, Chicago, IL 60614; (phone) 773-325-7715; (email) kellytzoumis@ameritech.net.