

CERCLA and SARA Title III: Environmental risk communication
and community participation at brownfield sites

George Jackson

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Executive Summary

Is current Superfund legislation effective in communicating environmental risk? Are the mandated community involvement programs successful in encouraging public participation at Superfund sites? If there are problems, what can be changed to improve the situation?

Superfund is the principle federal effort for cleaning up inactive hazardous waste sites and protecting public health. SARA Title III is an effort to address the issue of chemical hazards in communities.

Consensus and care communication are the primary types of risk communication used for brownfield sites. Public participation involves processes that emphasize face-to-face deliberation, problem solving, and consensus building.

Research on these topics suggests: (a) promoting brownfield redevelopment as a means of neighborhood revitalization, (b) increasing training and education for citizens and volunteers, and (c) improving program evaluation methods.

Introduction

There are about two-dozen federal laws relating to toxic and hazardous substances. But four of these laws are responsible for characterizing the basis for the regulation of disposing of these substances: (1) the Toxic Substances Control Act (TSCA) of 1976, (2) the Resource Conservation and Recovery Act (RCRA) of 1976, (3) Comprehensive Environmental, Response, Compensation, and Liability Act (CERCLA) or "Superfund" of 1980, and (4) the Food Quality Protection Act of 1996 (Rosenbaum, 2005).

The topic of this research paper will focus on Superfund legislation and its amendments. There is beginning to be considerable debate, scrutiny, and research about Superfund programs and whether they have been successful in achieving their respective intended goals. Specifically, this paper asks, "is the current Superfund legislation effective or adequate in communicating environmental risk?". Also, this paper inquires, "are the mandated community involvement programs at all successful in encouraging public participation at designated Superfund sites?".

There appears to be little argument whether affected community residents need to be involved in the decision-making process regarding brownfield redevelopment. But some are asking if the current methods to involve citizens are effective. If not, what are the problems, and what can be changed to improve the situation?

Background

Brownfields Issue

The United States Environmental Protection Agency (EPA) defines brownfields as abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination (Bearden, 2003). Brownfields can be eyesores and decrease property values. They can scare off development for the actual site as well as the surrounding neighborhood (Solitare, 2001). Brownfields are associated with many neighborhood problems, including declining property values and crime. EPA estimates that there are between five hundred thousand and one million brownfields in the U.S. (Solitare, 2005).

Each year billions of pounds of hazardous chemicals are released into the environment by tens of thousands of firms in the U.S. (Rich, 1993). Billions of pounds of these chemicals are manufactured, stored, and transported posing acute and chronic risks to human health and environmental quality (Rich, 1993). These brownfield sites range in size from corner gas stations to abandoned factories.

Since the 1970's, there has been an emerging realization that hazardous waste sites present great risk to public health and environment in all parts of the nation.

Brownfields redevelopment can range from basic clean-up and reuse of contaminated buildings to the long-term improvement in the quality of life for neighborhood residents (Solitare, 2001).

Brownfields are primarily problems found in older city neighborhoods. Older city neighborhoods endure problems that have resulted from chronic disinvestments. These areas, typically, are also suffering from declining economic base, high unemployment and poverty rates, poor education systems, dilapidated infrastructure, high crime, poor public health rates and limited open-space (Solitare, 2001).

There are a variety of potential brownfield sites. Almost any former manufacturing, distribution, or recycling facility that used, produced, reclaimed chemicals is a potential brownfield site. Examples include:

Agri-Business	Landfills/Dumps
Asbestos Piles	Oil Production Facilities
Auto Salvage Yards	Paint Shops/Auto Body Repair
Gas Stations	Rail Yards

(EPA, 2001)

Current Legislation

CERCLA, commonly known as Superfund, requires that specific procedures be implemented to assess the release of hazardous substances (Lundgren, 2004). Superfund is the principle federal effort for cleaning up inactive hazardous waste sites and protecting public health (Rosenbaum, 2005). The Superfund Program was created by CERCLA to address major threats to public health and the environment and the authorized uses of fund monies in CERCLA, Section 11.

CERCLA's purpose is to authorize the federal government to respond swiftly to hazardous substance emergencies and protect public health and the environment by cleaning up the nation's worst hazardous waste sites (Bearden, 2003).

The Act seeks to make those responsible for improper disposal of hazardous waste bear the costs and accept responsibility for their actions and it also established the Hazardous Substance Superfund Trust Fund to finance response action where a liable party cannot be found or is incapable of paying cleanup costs (Bearden, 2003).

By the mid 1980s it became obvious that the number of abandoned sites needing immediate cleanup and the costs had been grossly underestimated (Rosenbaum, 2005). The 1984 chemical disaster in Bhopal, India had drawn attention to the lack of community planning for chemical emergencies in the U.S. (Rosenbaum, 2005).

Title III is a departure from traditional regulatory policy, offering an excellent example of an approach to regulation that is increasingly advocated for dealing with health and environmental issues (Rich, 1993). Passage of SARA significantly changed the original legislation in the

following ways: (a) it greatly increased spending for programs, (b) it outlined new cleanup standards, and (c) created the Emergency Planning and Community Right-to-Know Act, Title III.

Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), also known as the Emergency Planning and Community Right-Know-Act, was an effort to address the issue of chemical hazards in communities. Title III authorizes communities to get detailed information about chemicals made by, stored in, and emitted from local businesses. It requires the formation of state and local planning committees to draw up chemical emergency response plans for every community in the nation (Rosenbaum, 2005).

The U.S. EPA is responsible for administration of the Superfund Program including enforcement, management, and research & development activities (Bearden, 2003). The Superfund legislation required the EPA to create a list of the nations most dangerous hazardous waste sites called the National priority List (NPL), to rank the sites according to human health and environmental risk and to initiate action to clean up sites according to their ranking (Rosenbaum,

2005).

Risk Communication and Public Participation

The primary types of risk communication used for brownfields sites are consensus and care communication. Consensus communication is used to inform and encourage groups to work together to reach a decision about how risk will be managed, prevented or mitigated (Lundgren, 2004). Care communication is communication about risks for which the danger and the way to manage it have already been well determined through scientific research that is accepted by most of the audience (Lundgren, 2004).

Thomas Beierle and Jerry Cayford define public participation as any of several "mechanisms" intentionally instituted to involve the lay public or their representatives in administrative decision making (Beierle, 2002). Other researchers have described public participation as being about deliberation on the pressing issues of concern to those affected by decisions at issue (Fischer, 2000).

Over the past 30 years, public participation has taken

a more and more increasing role in environmental policy making (Beierle, 2002). Public participation involves processes that emphasize face-to-face deliberation, problem solving, and consensus building. These processes have joined traditional public hearings and public comment procedures (Beierle, 2002). Some of the tools of public participation include:

- Policy dialogues
- Stakeholder advisory committees
- Citizen juries
- Facilitated mediations

The public should be involved as early as possible in decisions affecting a Superfund site. Early involvement is important not only from a community involvement standpoint, but also because the public can provide valuable information and input in the risk assessment, including pathways of exposure, historical activity, and potential future use of the site (EPA, 2005). Key risk communication pieces for Superfund sites include:

Community Relations Plan (now called Community

Involvement Plan)

- Administrative Record
- Information Repository
- Advertisement of public opportunities

(Lundgren, 2004)

Literature Review

According to Laura Solitare (2005), there is a lack of research in the area of risk communication and brownfields. Also, there is little data determine the effectiveness of programs. Risk communication and public participation involving brownfield regulation is mandated by environmental laws such as CERCLA and SARA, and are primarily implemented by the EPA. Are these regulations and the methods used by the EPA, at all successful in accomplishing their intended goals? Are mandated programs and methods evaluated sufficiently?

This section presents a review of current scholarly research and literature on risk communication and public participation at brownfield sites. The research reviewed here examines: (a) effectiveness of Local Emergency Planning

Committees (b) keys to meaningful public participation and (c) evaluation of EPA Community Involvement Program.

Effectiveness of Local Emergency Planning Committees

Researcher, Richard Rich (1993), seeks to determine to what degree the Title III mandated LEPC's are pursuing policies that are likely to get the necessary information to citizens and foster community debate on hazardous materials issues. His article reports the findings of studies that examined selected aspects of the implementation of Title III to assess the likely outcome of its strategy of indirect legislation.

The analysis is based on data obtained from (a) national surveys of LEPC's and their members, (b) case studies of three communities, and (c) information derived from observation of other state and local agencies with Title III responsibilities.

Analysis of the collected data revealed that most committees had put in place the basic structures necessary for making information available to the public. Significant numbers had failed to take steps that could be vital to

effective information sharing. The researcher also observed that very little of what was seen in the case studies qualifies as true risk communication. In addition, typical LEPC members are not have no training in public relations or communications and as a result had overlooked significant flaws in their communication efforts.

Only recently have environmental agencies, most notably the USEPA, begun to revamp and restructure their community involvement strategies with Superfund sites.

Keys to Meaningful Participation

Laura Solitare (2005) attempts to identify prerequisites that must be met before there can be meaningful citizen participation in brownfield redevelopment. By this she hopes to encourage research and policy efforts to over come those limitations and foster significant community involvement in brownfield redevelopment in residential neighborhoods.

For citizens to want to participate: (1) there must be a commitment to their involvement from all stakeholders; (2) they must be aware of the opportunities to participate; (3) they must have time, as a resource to commit to the

process; (4) they must trust that the other stakeholders are fair and honest; (5) the issue under consideration must be one they perceive to be a problem.

In her article, Solitare uses case studies to explore how the five situational prerequisites influenced residents' participation in the decision-making process for brownfield redevelopments in their neighborhoods. The study focuses on eight brownfield projects in two different cities, Boston, MA and Houston, TX. All of the projects are located within residential neighborhoods or adjacent.

The findings of Solitare's case studies revealed interesting results concerning the five prerequisites. The first prerequisite, level of commitment from effectors, were influenced by three aspects whether or not residents participated. They were: (1) meaningful participation was bounded by each city's motivation to have public participation; (2) the affecters willingness to share decision-making authority, as demonstrated by their level of response to the residents voiced concerns; (3) the point at which they were first informed about the redevelopment. The second prerequisite, opportunities for participation, found that the sites that had active neighborhood organizations

had more meaningful participation and were able to organize residents to focus on an issue. The third prerequisite, dealing with time, showed that brownfield redevelopment was not a top priority when compared to other neighborhood issues, (i.e. crime, education, and unemployment) when deciding how to spend time on civic activities. The fourth prerequisite, trust between stakeholders, showed different results between the two cities. In Boston, residents did not trust the major effectors, i.e. the city or developer. This distrust led to residents increased participation. In Houston, trust of the city did not seem to play a factor in residents participation. The fifth prerequisite of problem identification illustrated, surprisingly, that the perception of risk from site contamination was not a critical issue in any of the cases. Seven of the sites were contaminated, yet residents did not view it as a big problem at any site.

Solitare concluded that if there was a centralized alternative framing to brownfield redevelopment, one that promotes it as a means of neighborhood revitalization, then citizens might choose to participate. Residents may not see brownfields as an environmental risk issue, and not be outraged. Without this outrage residents saw no urgency and

thus did not participate.

Evaluation of EPA Community Involvement Program

Susan Charnley and Bruce Engelbert in an eight-year study to evaluate the effectiveness of the EPA Superfund Community Involvement Program (CIP). The Superfund evaluation project was developed and implemented by staff working in EPA's Community Involvement and Outreach Branch (CIOB) in collaboration with hired contractors. The project is internally driven; members of the public and other stakeholder groups were not involved in designing it, though they did provide input regarding what evaluation criteria to use. The project evaluates aspects of both the process and the outcome of community involvement activities at Superfund sites. One of the purposes is to find out how successful an EPA public participation program is meeting agency goals.

EPA believes that cleanup efforts will be most successful if people are well informed about them, have early and meaningful opportunities to provide input about what is being done, and are able to help shape the decisions being made.

To achieve this goal, the community involvement

program focuses on three things:

1. Informing the public about environmental problems at Superfund sites and their associated risks, the remedial responses under consideration, and ongoing progress towards cleanup
2. Involving members of the public in appropriate ways in the process of making cleanup decisions
- 3) Identifying and resolving conflict

Agency managers may only support public participation programs if it can be demonstrated through evaluation that they are useful for improving decisions or reducing conflicts, and worth the commitment of resources. Evaluation is the best way to learn how public participation programs can become more effective evaluation makes it possible to see how well government policies regarding public participation correspond to government practices for involving citizens in environmental decision-making. Government agencies are moving towards performance-based management.

Charnley and Engelbert's approach includes four phases: (1) develop set of evaluation criteria for testing;

(2) assessing differences in view among community members;
(3) provide timely and useful information to community involvement staff to improve community involvement efforts;
(4) continue providing feed back to Community Involvement Coordinators (CIC's) about involvement efforts along with institutionalizing evaluation efforts with commitments for more.

CIOB tested three evaluation methods over the course of eight years: telephone interviews, written mail surveys, and focus groups. Written mail surveys proved to be the best and most practical tool for evaluating community involvement at Superfund sites.

Do the results of the evaluation project reflect anything about whether the investment the Superfund program is making in community involvement is worthwhile? One pattern that appears across the data is that generally, those community members who are most informed about and involved in the cleanups also express the most satisfaction with the involvement process, and with the job EPA is doing in cleaning up Superfund sites. At most sites, community members want to be informed about hazardous waste issues and cleanup activities, and want this information to come from

EPA. Survey respondents who were on EPA's Superfund site mailing list exhibited a high level of awareness about the toxic wastes present at the site, and potential exposure pathways. Finally, at least some people are interested in being actively involved in the Superfund cleanup process. These findings can be interpreted as indicators that EPA investments in public participation are worthwhile.

Conclusions

At first glance, it would seem that the overall intent of CERCLA and SARA Title III, are sound and accomplishable. The truth is that these laws and their programs have serious flaws that prevent them from being as effective as the writers of the legislation hoped. CERCLA and SARA Title III have been in affect for nearly thirty years. In that time, this legislation, with its mandates, requirements and programs, have produced successes as well as their share of failures or problems. Problems such as: (1) mandates to state and local environmental authorities without funds or assistance to implement them, (2) lack of risk communication training for local citizens and volunteers, (3) and insufficient methods of evaluating programs, methods and practices. These problems indicate that to suggest that the

legislation is a resounding success, would be false. In contrast, the EPA's efforts in evaluating its community involvement program is definitely a bright spot for improving government risk communication and public participation programs.

With the research collected for this paper, can it be said that the effectiveness of CERCLA AND SARA and their programs in question range from non-effective to moderately effective in achieving their goals in reducing environmental and human health risks.

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