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# Solid Waste Management and the Need for Effective Public Participation

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# SOLID WASTE MANAGEMENT AND THE NEED FOR EFFECTIVE PUBLIC PARTICIPATION

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## ABSTRACT

Recent changes in technical requirements for landfill design, mandated by the U.S. Environmental Protection Agency, have led to closing the majority of solid waste landfills in the United States. Efforts to site new landfills have elicited widespread opposition. Based on eight case studies in Alabama, we identify three themes behind this opposition: threats to quality of life, potentially harmful economic impacts, and frustration over representational issues in the process involved in selecting the proposed solid waste facility. These concerns mirror much of the literature on public opposition to landfills and other facilities which pose similar threats to the environment and public health. The incidence of public opposition raises the question of why, when the technical regulations affecting solid waste landfills were updated, no parallel modification of the permit process for such facilities was initiated. In light of concerns expressed in our case studies, we identify a set of suggested modifications that would allow for greater public participation in the siting and permitting process.

## INTRODUCTION

Handling solid waste is one of the more prosaic yet vital tasks of local governments. Recent changes in how solid wastes are managed in the United States have resulted in the closure of many older and smaller community landfills and their replacement with larger regional landfills.

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The proximate cause of these changes has been promulgation of Subtitle D of the Resource Conservation and Recovery Act, which established new and more stringent standards involving the use of synthetic liners, leachate collection systems, and monitoring wells. In addition, landfill operators were required to provide financial assurances and to accept liability for a period of 30 years after closure of the landfill. These new provisions came into effect during 1993 and 1994. Most existing landfills were unable to meet the new design standards and were forced to close, creating a national crisis in solid waste management.

In the long run, the new, tighter regulations for landfills should promote a safer waste disposal system. In the short term, however, many communities were faced with steeply increasing costs for garbage disposal. Tipping fees, the charge (usually per ton) levied at the landfill gate, have increased significantly due to the higher costs of running a Subtitle D landfill compared to running older landfills. Since the cost of retrofitting existing landfills to meet Subtitle D standards often was prohibitive, most landfills simply closed and communities were forced to explore alternatives to meet solid waste disposal needs.

In Alabama, new Subtitle D requirements led to the closure of 115 landfills between 1993 and 1995, leaving only 29 permitted landfills in Alabama (ADEM, n.d.). Most affected were small towns and non-metropolitan counties that lacked the volumes of waste necessary to justify construction and operation of a Subtitle D landfill. To keep tipping fees below $30 per ton, the Alabama Department of Environmental Management (ADEM) recommended that landfills serve populations of no less than 70,000 (ADEM, 1989). Only 15 of the 67 counties in Alabama have populations of that size; 34 Alabama counties have fewer than 35,000 residents (Bureau of the Census, 1992). As a consequence, most new landfills proposed since 1993 have been designed to serve multiple counties. In some cases, several small towns and non-metro counties formed solid waste authorities to handle their own wastes. Elsewhere, private companies proposed to build regional landfills in rural areas to handle wastes from both metro and non-metro areas. Those communities identified as potential hosts of a solid waste facility typically responded with organized opposition. Whether proposed by a public authority or a private company made no difference.

Considerable attention has been devoted to the study of organized citizen opposition to hazardous and nuclear waste facilities (Alley et al., 1995; Aranoff & Gunter, 1994; Brown & Masterson-Allen, 1994; Fitchen,

1991; Murdock et al., 1983). To date, however, little attention has been paid in the academic literature to the impact of Subtitle D on how communities handle solid wastes. In this paper, we examine the process of environmental decision making set in motion by new, more stringent, and more costly design standards for solid waste management in the United States. A set of eight community case studies is used to identify the nature of public concerns associated not only with possibly hosting a landfill but also with the process through which such decisions are reached. Proponents of establishing landfills were successful in only two of the eight cases studied. We examine the process of siting and permitting solid waste facilities and propose changes that would allow for increased citizen involvement and trust both in the process and the outcome of siting and permitting decisions. Our cast of actors includes highly vocal groups of local residents organized in opposition to landfills proposed by either private or public actors, a state agency that believes it is unable to disallow any permit application that meets technical specifications, and local officials confronting a garbage disposal crisis caused by an unfunded federal mandate. We recognize that the cases themselves are all drawn from Alabama, but believe our findings and recommendations are generalizable.

## THEORETICAL PERSPECTIVE

A substantial body of literature has drawn attention to organized public response focusing on threats to environmental and public health (e.g., Dunlap & Mertig, 1992; Gottlieb, 1993; Hofrichter, 1993; Schnaiberg & Gould, 1994; Szasz, 1994). Consistent with this literature, we see grassroots environmentalism to be a form of collective behavior commonly identified as a social movement. We feel it is important, however, to distinguish the grassroots organizations we have observed from the mainstream environmental movement represented by national groups such as the Sierra Club and the Audubon Society (Szasz, 1994). These mainstream groups have focused primarily on conservation of nature and operationally function as formal bureaucracies with multi-million dollar budgets and complex ties to the executive and legislative branches of the federal government. Community-based groups, in contrast, usually are small, informal, and poorly funded, and focus primarily on local public health concerns associated with threats to the environment. Mainstream environmental groups grew dramatically in size during the 1980s in

response to the anti-environmentalist posture of the Reagan administration. Borreli (1987, p.29) estimated that membership of mainstream groups to be 10-15 million, but estimated membership of local and regional environmental groups to be approximately 25 million.

Most members of community-based groups have few if any ties to mainstream groups. Sale (1986) argues that the growth of local environmentalism reflects a backlash against the major national groups, which are seen by some as having abandoned grassroots organizing in favor of lobbying in Washington. The mainstream environmental movement has matured and become increasingly institutionalized, opening up space for emergence of a new set of actors whose initial concerns are local and immediate rather than global and strategic. Women are prominent as leaders of the grassroots environmental movement, in part because they are the ones most likely to have primary responsibility for household health (Gottlieb, 1993; Krauss, 1994). Further, despite the increased participation of women in the labor force, women are more likely than men to be unemployed outside the home. As a result, women are likely to spend more time around the home and immediate neighborhood than are men. This provides them opportunity to investigate local conditions and to communicate what they have found to neighbors. When environmental concerns arise, women are more likely than men to have established local social networks to draw upon for support and information (Krauss, 1994).

Research on grassroots environmentalism indicates that local groups often but not always have proven highly successful in achieving their goals (Szasz, 1994). Effective leadership is a key element in determining whether an environmental group will be successful. This is one reason that national organizations like Citizens' Clearinghouse for Hazardous Wastes, which support local groups, emphasize fostering local leadership skills through training programs and published materials. Leadership responsibilities may be vested in a single individual or in a small core membership that work together closely (Alley et al., 1995). Leaders coordinate group activities, encourage group members, and handle media relations. Access to sympathetic media is a crucial factor in getting the group's message out to the broader public, where the key political battles in the environmental arena are likely to be fought. Environmental battles often involve local citizen groups pitted against government agencies or private sector corporations, both of which have available considerable technical and legal talent. Successful local groups have been

able to establish linkages with other groups in other communities fighting similar battles, in the process exchanging legal and technical advice, information on their opponents, and strategies that have proven successful. This networking between groups is a crucial development not only for the information and other resources that become available, but also because local group members begin to realize that their struggle is part of a larger struggle (Heiman, 1990).

Public participation in solid waste management is mandated by the Resource Conservation and Recovery Act (RCRA). Until recently, the public participation process under the RCRA involved formal public hearings limited to discussion of technical aspects of the proposal under review, an approach that elicited widespread criticism (Bingham, 1986; O'Hare et al., 1983). Recent changes in the RCRA require that a public information meeting be held prior to the formal public hearing on the technical merits of a proposed facility (EPA, 1995). These changes have been incorporated into Alabama's regulatory system (ADEM, 1997), but do little to resolve fundamental inadequacies associated with the process of siting and permitting solid waste or other kinds of facilities that cause public concern. ADEM has adopted a narrow technocratic view of their mandate, including in their announcements of public meetings and hearings the following statement: "The Alabama Department of Environmental Management is limited in the scope of its analysis to environmental impacts. Any comments relative to zoning or economic and social impacts are within the purview of local zoning and planning authorities and should be expressed to them."

A growing literature suggests that citizen interests and concerns do not correspond to the technological world view of "environmental professionals" that is reflected in how public participation is structured (e.g., Kartez, 1989; Rogers, 1992). Similar problems have been encountered by risk communicators, who find that citizens often do not respond "appropriately" to risk messages (Fitchen, 1989, 1990; Heath & Fessenden-Raden, 1990; Krimsky & Plough, 1988; Wolfe, 1990). Citizens are not always ready to accept anthropogenic risks over which they have little control and frequently voice concerns which are not readily addressed by the technocratic framework of the environmental industry and regulatory agencies. Frustration with this process in the siting of hazardous waste facilities has been widely noted (Davis, 1987; Finsterbusch, 1988; Wolt, 1980). The same frustration can be found in public hearing processes associated with siting solid waste facilities.

Heath and Fessenden-Raden (1990) suggest risk information acceptance is enhanced if the local community is involved in the process of identifying its own needs and if the community initiates relationships with outside information providers. There are no standards, however, which specify how public input should be solicited by local governments when considering the advisability of siting a landfill. Local governments may operate openly and in a manner which encourages public confidence (Fitchen, 1991, p.198-211), or they may make decisions clandestinely and take positions substantially at variance from public desires (Bailey & Faupel, 1993; Bailey et al., 1992). In the eight case studies examined here, the problem of local politics will be seen to be a common concern.

## METHODOLOGY

With a goal of understanding citizens' concerns not currently addressed within the existing process for siting landfills in Alabama, a multi-site case study methodology was employed. The case study approach provides a vehicle for studying a "contemporary phenomenon within its real-life context" (Yin, 1988, p.23), allowing the researcher to observe a process and/or phenomenon as it unfolds. Case studies also are useful in helping decision makers understand the impact of public policy. In this study, citizen concerns and frustrations with both policy and process relating to solid waste management are explored.

Data for this paper were drawn from observations of public meetings and hearings, meetings of local environmental groups, and interviews with group members in eight case study sites. Daily and weekly newspapers throughout Alabama were monitored systematically to identify locations where grassroots groups were responding to environmental issues. Whenever a new issue and/or group was identified, descriptive information was recorded, including the names of individuals identified as being associated with grassroots organizations. These leads were followed up with phone contacts and personal visits. The eight cases were selected because they represent communities where solid waste facilities were proposed and where locally organized opposition emerged during the period of field work, 1992-1995. Geographically, the case studies are widely distributed across Alabama. Demographically, the case studies are representative of the diversity found within Alabama (Table 1).

**Table 1. Demographic characteristics of case study sites.[a]**

| Case Study Site | Population | Percent African-American | Median Per Capita Income | Percent Below Poverty |
|---|---|---|---|---|
| Autauga County | 34,222 | 20 | $11,821 | 15.7 |
| Crenshaw County | 13,635 | 26 | $ 8,848 | 24.3 |
| Elmore County | 49,210 | 22 | $10,677 | 14.5 |
| Escambia County | 35,518 | 28 | $ 8,858 | 28.1 |
| Perry County | 12,759 | 64 | $ 6,879 | 42.6 |
| Talladega County | 74,107 | 31 | $ 9,700 | 20.2 |
| Titusville | 3,959 | 95 | $ 7,381 | 27.7 |
| Walker County | 67,670 | 7 | $10,105 | 17.3 |
| Alabama | 4,040,587 | 25 | $11,486 | 17.9 |

[a] State and county data are from the 1990 Census of Population and Housing (Bureau of Census, 1992). Data from Titusville is for Census Tract No. 42 (Bureau of the Census, 1993).

The meetings that we attended were of three types: (1) official "hearings" which were usually sponsored by ADEM; (2) unofficial, community-wide meetings sponsored by the grassroots organizations themselves; and (3) networking meetings where leaders and members of various grassroots environmental groups in Alabama shared experiences. In most cases, two or more of the authors attended these meetings, often accompanied by graduate students. Our approach was to maintain a low profile as observers, making it clear that our role was as researchers, not as community organizers or technical experts. When asked to explain what we were doing, our standard response was that we were documenting citizen concerns and how these concerns were expressed. We often attended multiple meetings and came to be familiar faces at group meetings. We do not believe our presence significantly altered the tone or quality of group discussions or dynamics, but as researchers we must always be aware that our mere presence might affect the research setting in unknown ways (Vidich et al., 1964). Our observational strategy was to record everything that we saw or heard which might have been even remotely important, though seemingly insignificant at the time. As we proceeded, patterns emerged that provided the basis for further enquiry and observation. This is the essence of a grounded theory approach to data collection and analysis as described by Glaser and Strauss (1967).

In addition to these observations, we conducted detailed semi-structured interviews with key group leaders, ADEM staff, and executives of Waste Management of Alabama, a significant private sector firm in the solid waste business. We also conducted interviews in several other communities where solid waste facilities were considered but either elicited no opposition (rare) or never made it past initial discussion stage. Finally, it is relevant to note that public expressions of frustration, resentment, and distrust toward both industry and regulatory agencies about the proposed solid waste landfills parallel results of previous research on citizen response to a large hazardous waste landfill in Alabama (Alley et al., 1995; Bailey et al., 1992, 1993, 1994).

## CASE STUDIES

In this section, each of the eight case studies is described briefly. In all but one case, the poor and largely African-American neighborhood of Titusville in the city of Birmingham, the case studies are identified as counties rather than specific communities. While the proposed facilities

had specific locales (typically unincorporated rural areas), membership of groups opposing solid waste facilities usually came from a number of communities within a county rather than from one community.

**Autauga County**

The rural community of Pine Level was proposed as the site of a solid waste landfill to be operated by the Mid-Alabama Solid Waste Disposal Authority, a public multi-county solid waste authority. People Against Autauga Landfill Site (PAALS) formed to protest the siting of the landfill in Autauga County. The basis for their protest was that Autauga County would retain very little control over what or how much waste was deposited at this site and that most of the waste would come from the nearby cities of Prattville and Montgomery. PAALS held weekly meetings of up to 50 people over a period of more than four months. Most attending these meetings were white and most appeared to be over 50 years of age. As was found to be common among the groups we studied, no formal membership list was developed by the group. The Autauga County Commission eventually voted not to approve the landfill, so no permit application ever reached ADEM.

**Crenshaw County**

A private firm from Florida proposed to establish a large (2,500 tons a day) landfill that would pay Crenshaw County 50 cents per ton and provide free tipping fees for all county residents. The proposed landfill would be at the site of the existing landfill, which was being forced to close. The presence of industrial wastes at this facility was going to make closure an expensive proposition, and the Florida company agreed to pay closure costs. Without holding a public meeting, the County Commissioners constituted themselves as the county's Solid Waste Authority and signed the contract. A small group of local citizens formed a group known as Concerned Citizens of Crenshaw County (CCCC) and pressed for public meetings to discuss this contract. Two such meetings were held, both filling the courthouse with several hundred angry citizens. This group took the position that landfills are necessary, but that the size of the proposed landfill was out of proportion to local or regional needs and could only achieve its target volume by bringing in out-of-state waste.

Legal challenges brought by CCCC resulted in the contract being rescinded before the formal ADEM hearing process got underway.

**Elmore County**

A remote rural corner of Elmore County was the original site of a proposed solid waste landfill to be operated by the Mid-Alabama Solid Waste Disposal Authority, the same authority that subsequently tried to develop a landfill in Autauga County. In Elmore County, a small group of local citizens quickly organized to protest the facility. This group was very loosely organized--it did not even have a name. A public meeting called by the County Commissioners attracted a standing-room-only crowd at the county courthouse. Residents produced photographic evidence showing seasonal springs on the land to counter statements by proponents that no surface water was present at the proposed site. Residents also voiced concerns about the possibility that prisoners would be working on the garbage trucks, a proposal made to save money. After the county commissioners voted to reject the landfill in Elmore County, the group quickly disbanded.

**Escambia County**

In 1992, a group known as Citizens for Escambia County formed to oppose a landfill proposed by Fob James, who served as governor in the early 1980s and who was elected to a second term of office in 1994. While this group worked very hard to raise money to fight the landfill through legal means, they did little to educate themselves regarding the technical issues associated with landfill siting and permitting. As a result, when their lawyer resigned from the case, they were unprepared to continue the battle themselves. One key leader was threatened with the loss of his job as a deliveryman for a dairy products firm. In addition, lawyers representing the proposed landfill threatened to sue opponents. According to one informant, these incidents were "devastating," having the effect of "an explosion in the center of the group," which as a result "scattered in all directions." The County Commission approved the proposed landfill. When ADEM held its public hearing, landfill opponents were unable to muster a single technical argument against the permit, which subsequently was issued.

**Perry County**

A landfill was proposed to serve 15 rural counties and associated municipalities in west-central Alabama. The publicly owned facility was to be operated by the Central Alabama Waste Disposal Authority. The site was located in a corner of Perry County where, due to the direction in which groundwater flows, few Perry County residents would be affected. The site was, however, within seven miles of a well field used by the city of Selma to provide a significant portion of their public drinking water. Because Selma is not in Perry County, however, residents of that city (and Dallas County) had no direct say in the siting decision. County Commissioners approved the siting early in the process, with little opportunity for public involvement. Local citizens who objected to this proposal formed a grassroots organization calling itself People Against Polluting Our Aquifer (PAPA). One unique feature of PAPA was the presence within its leadership of an environmental engineer who works as a free-lance consultant. After a long struggle, the landfill permit was rejected by ADEM on technical grounds.

**Talladega County**

Prior to the Subtitle D mandate, Talladega County owned a landfill operated by Waste Management of Alabama. When Waste Management of Alabama tried to obtain a permit to upgrade the existing landfill to meet Subtitle D standards, Citizens Against Pollution in Talladega (CAPIT) organized in opposition, arguing that, due to the karst terrain (i.e., prevalence of sink holes and underground caverns), the site posed a threat to groundwater resources. CAPIT's membership was largely white, even though the landfill was located in an African-American section of Talladega County. Community Resource Development (CRD), a group representing African-American residents, became involved in the landfill issue, forging an alliance with CAPIT. Together, these groups put sufficient pressure on the County Commission that Waste Management of Alabama abandoned their attempt to upgrade the landfill, which was subsequently closed. Local white activists involved with CAPIT learned that the presence of a poor and politically marginal population in their county had potential environmental consequences. They built on this lesson and helped organize two state-wide meetings of community groups fighting solid waste proposals.

**Titusville**

Browning-Ferris Industries (BFI), the nation's second largest waste hauler, obtained approval from the city of Birmingham to establish a garbage transfer station in the predominantly African-American neighborhood of Titusville so that waste could be unloaded from city garbage trucks, loaded onto tractor trailers, and hauled to their landfill in Walker County (see below). This meant that all garbage trucks from Birmingham and surrounding areas would converge on Titusville, driving past a community park and outdoor swimming pool. Residents of Titusville formed a group known as Total Awareness Group (TAG) and fought both city hall and BFI to a standstill. A central issue in their campaign was environmental racism, the selection of their neighborhood because it was African-American, poor, and politically vulnerable. The transfer station was built for $17 million, but, despite support from the Mayor of Birmingham's office, legal and political challenges succeeded in blocking BFI's plans. The facility subsequently was used to shred and recycle automobile tires.

**Walker County**

BFI proposed a privately operated solid waste landfill site near an African-American neighborhood in the tiny community of Dora to serve the metropolitan Birmingham area. Residents of the area organized in October 1990 to form a group called Concerned Citizens for a Better Environment (CCBE). More than 400 people attended the first organizational meeting. Like each of the other cases we observed, CCBE was a very loosely organized group with no formal membership list. CCBE's membership was largely white, though a few local African-Americans attended the meetings. CCBE formed an effective alliance with TAG, the predominantly African-American group in the Titusville section of Birmingham. Subsequently, white residents of Walker County joined protest rallies in Titusville, and African-American residents of Titusville joined their white compatriots during meetings in Walker County. The County Commission and later ADEM approved the proposal, which opened for business in 1995.

## RESULTS: VOCABULARIES OF PROTEST

Multiple readings of fieldwork data identified 52 concerns of local citizens and members of grassroots organizations during the landfill siting process. A table was constructed to identify a) the concern, b) the location where the concern was expressed, c) the number of people who expressed the concern, and d) general comments and quotes from citizens. In a second round of analysis, the 52 identified concerns were distilled into three broad categories. The first category of concern centers on direct quality of life consequences anticipated as a result of proposed facilities. The second focal point of concern involves economic impacts on local residents and communities. A third and critically important issue we characterize as representational, reflecting concern about fairness of the decision making process.

### Quality of Life Consequences

Citizens in the host communities expressed great concern over safety and health consequences anticipated from the proposed landfills. Most issues related to potential contamination of aquifers and drinking water. One citizen summed up the general concern by saying, "Water is more valuable than garbage."

In most cases, people living near proposed landfills rely on their own wells for water, not surprising given the rural nature of most landfill sites. In one case, a landfill was proposed in the recharge zone of an aquifer, raising questions about the technical competence of proposal sponsors. In another, karst terrain posed unique threats. Concern regarding effects on surface water also were common, with local residents producing photographs of seasonal streams in areas where landfill proponents said no running water existed.

A sub-theme evident at several meetings was a general mistrust of the safety and reliability of current landfill technology. Citizens expressed concern that plastic liners used in Subtitle D landfills might leak, causing groundwater contamination and increasing health risks. Further, several groups questioned the accuracy of geological maps used to determine landfill location, citing personal knowledge and experience of long-time area residents that contradicted the technical reports of "experts."

Solid waste facilities are not permitted to receive hazardous waste, but members of several grassroots groups were convinced this health threat

was a very real possibility. Citizens were skeptical of landfill operators' ability or willingness to monitor the waste stream for potential toxic substances. One person cautioned that the waste stream could contain "every toxin known to man--even perhaps atomic wastes!" This issue was of special concern in Crenshaw County, where hazardous wastes had been dumped in the existing solid waste landfill. Moreover, the promoter of the new landfill was an out-of-state developer whose business was going to depend on bringing in wastes from the neighboring states of Florida and Georgia. One person emphatically stated, "We don't want nobody else's garbage!" A Perry County man talked about "trucks rolling in" with inadequate systems for checking the trucks' contents. "We're gonna get deadly poison in this landfill," he added. An elderly Walker County man protested the possibility of waste coming into his county from all over the United States. "We don't want outsiders....We stick together in Walker County. Anybody can bury something under the ground. We bury our people that way."

A number of other concerns were identified. Air pollution, particularly the release of methane gas from the landfill, posed another potential threat. One woman made an emotional appeal that her husband was already unable to breath at night and this would "send him to his grave." Increased traffic and road congestion due to trucks hauling waste was another citizen concern. The safety of school children in proposed site areas was particularly salient. In Titusville, heavy truck traffic would be concentrated next to the community's park and swimming pool, an area intensively used by children and families.

Beyond safety concerns, opponents argued that high volume truck traffic would lead to increased road and bridge maintenance costs, which would be borne by local taxpayers. Increased roadside litter was another issue frequently raised. In Elmore County, the planned employment of prisoners in garbage pick-up and transportation raised speculation that once they had served their time, these same prisoners would return to commit crimes, having familiarity with daily patterns (i.e., which homes were empty during the day) in the neighborhoods served.

Concern for historic and family traditions in communities was commonly expressed, as was a concern for a more general sense of "community" that would be undermined by the presence of a large landfill. One proposed landfill site was adjacent to an old cemetery. "People who have loved ones buried in this cemetery feel very strongly about this landfill." Similar concern was raised about the impact on historic

landmarks in the community, including a 170-year-old church. A third group anticipated having to withstand landfill odor during services at that church. Most groups did not want the tranquility of their rural lifestyles disturbed.

**Economic Impacts**

A second theme of citizen concern involved economic implications of the proposed facilities. Most frequently, citizens expressed concern about declining real estate values. Several real estate agents complained of sales that had already been lost due to the possibility of a landfill being sited nearby. Others voiced concern that their homes and land would become worthless and unsalable should a landfill be built. One person pleaded, "I put my life savings in it (new home near proposed landfill). If they build, I could not give it away. I haven't even moved in yet." Another person claimed that real estate values in the area had dropped from $1000 per acre to $200 per acre since the landfill issue became public. Still another complained that he had "just lost two real good land sales." A developer reported that he had suspended negotiations on about 100 acres of land in Autauga County when he heard about the landfill. He suggested he might pursue his project in neighboring Elmore County, which had recently rejected a landfill.

Economic concerns went beyond real estate values. Opponents argued that the presence of a landfill would have a detrimental effect on general economic development. In Perry County, catfish farmers expressed concern about aquifer pollution that would affect their ability to fill their ponds with uncontaminated water. Most opponents were concerned with the long-term economic risks of a landfill, noting the possibility of a leak in the plastic liner. As one citizen stated, "It costs a lot of money to build a landfill, but it costs a lot more money to clean it up."

Some public hearing attendees expressed the view that a landfill could be an economic boon to the county. Landfill proponents commonly argued that local residents would reap economic rewards (lower taxes because the landfill would generate income, lower disposal costs, and jobs for local residents) if the landfill was sited in their county. Proponents also argued that having a permitted landfill would make it easier to attract industry to the area. Most speakers at public hearings and virtually all members of grassroots groups in our study were concerned that the focus on economic benefits reflected the relative importance of money over

health and environmental quality. A Perry County man said, "I don't measure human life by money." Another man called it a "bold faced lie" that land values would increase. One elderly woman suggested that the economic-boon attitude of the County Commission could be summed up by the phrase, "If you've got the cash, we'll take your trash."

**Representation Issues**

The third overall theme of representation addresses concerns associated with process and fairness. On paper, opportunities for citizen input into decisions associated with solid waste management exist within the local political process as well as in the formal decision making process administered by ADEM. ADEM, the regulatory agency responsible for permitting solid waste landfills, is concerned exclusively with technical matters (e.g., hydrogeology and compliance with design criteria) and does not act on a permit application until local approval is obtained. All matters pertaining to social and economic impacts are the exclusive domain of local governments (usually the county). After approval by the local political jurisdiction, ADEM holds public hearings that are restricted to consideration of technical matters and any discussion of social or economic issues is considered non-germane to the ADEM permit process.

From ADEM's perspective, local governments are responsible for assessing potential social and economic effects of the proposed landfill. ADEM has no means of evaluating whether the local decision making process involved open discussion of the merits and demerits of the proposal, or if the decision was made quietly and with little or no public discussion.

One of the most consistent concerns expressed by opponents of solid waste facilities was that local officials failed to provide adequate public notice or opportunity to comment. In some cases, no information was made available until after the decision had been made. In other counties, the process involved public information meetings and discussion sessions that allowed local leaders to assess public acceptance of the proposed solid waste facility.

In general, citizens felt that local political leaders who supported proposed solid waste facilities were not in tune with the sentiment of their constituents. One landfill hearing attender asked those opposed to the landfill to stand. Virtually everyone stood. Then he asked those in favor of the landfill to stand. No one stood. Turning to the county

commissioners, he said, "Elected officials, you see the will of the people." At another hearing a citizen accused a commissioner of being "too proud to change [his] mind"; the citizen told the commissioner, "We will respect you more if you change your mind and do what is right for the people of this county." One woman asked the commissioners if they had "the backbone to do the right thing."

Many landfill opponents felt that personal gain was the driving motive for landfill approval. One person suggested that potential political gain had impacted the commissioners' decision. "Whenever politicians build a bridge or something, they all run down there to put their name on the plaque. Gentlemen, don't put your name on this plaque. It'll come back to haunt you." Another person reminded commissioners that their vote on the landfill issue would tell citizens "who [they] really represent."

In several of our case studies, people expressed the opinion that decision makers had conflicting interests and were less than objective in the decision process. As one person put it, "Someone stands to profit." A PAALS member suggested that "something or somebody is behind this landfill and because of that, Autauga is getting it shoved down their throats."

In one county, opponents alleged that the proposed landfill property was owned by a brother-in-law of a county commissioner. ADEM and a local financial lender were charged with self-interest in yet another county and were requested to "focus on the good of the many rather than the gain of the few." In one case, the consulting engineer responsible for designing a proposed landfill was related to the Director of ADEM, which some citizens felt represented a potential conflict of interest. Elsewhere, county commissioners were suspected of having been bribed by private interests. Political corruption in Alabama is not without precedent, as in the case of Lawrence County (which was not developed as a case study because no organized opposition ever developed). Three Lawrence County commissioners allegedly were promised $10,000 for their votes in support of a proposed landfill, a matter which became public during an investigation by the state Attorney General ("AG Probe Focuses on Commission's Landfill Vote," *Montgomery Advertiser*, 10 June 1993).

Concern about being a "dumping ground" for many outside communities raised issues of justice for several groups. This sense of injustice was especially strong when opponents realized that being rural and poor influenced facility site decisions. Specific statements expressing that concern include "They think we're a bunch of dumb hicks and they can

pile this stuff on us" and "Alabama is being sold out." Several groups suggested racial discrimination when solid waste facilities were proposed in the middle of African-American communities. This certainly was the case with Titusville, the predominantly African-American neighborhood in Birmingham. The cases of Talladega and Walker Counties also raised concerns about environmental racism and justice. The issue of environmental racism in Alabama is a real one (Bailey & Faupel 1992; Bailey et al., 1993, 1994), but the cases reviewed here suggest that poor rural white communities are just as likely to be asked to serve as landfill hosts as are African-American communities. In four of our eight cases, residents of the affected communities were white, while in two cases the people most directly affected were African-American. In the remaining two cases, both white and African-American neighborhoods were affected by the proposed facilities.

## TOWARD MORE EFFECTIVE PUBLIC PARTICIPATION

Local citizen concerns regarding proposed solid waste facilities can be classified into three broad areas: quality of life consequences, economic impacts, and representation issues. In most of our eight case studies, all three categories were evident in the concerns expressed by landfill opponents. However, virtually none of these concerns can be addressed during the formal permit process for Subtitle D landfills. ADEM officials are restricted by their legal mandate to address narrowly defined technical criteria which, if met, necessitate the issuance of a permit. Local governments are responsible for determining the social and economic suitability of a particular proposal. Unfortunately, local governments do not always operate openly, and often residents hear of a proposal only after the item has quietly been placed on the agenda and acted upon. Most of our respondents were residents of small rural communities who felt they had little ability to influence decisions made by the "Courthouse Gang," as local leaders frequently are called in Alabama. Similar sentiments were expressed by the residents of the urban neighborhood of Titusville. By the time concerned citizens hear about the proposal, it has become part of the formal ADEM process where social, economic, and political concerns are not supposed to count. In short, the current process for site approval and permitting of solid waste facilities is flawed. Concerned citizens feel that the system has failed them. The response is frustration, anger, and emotion-charged opposition. As the

responsible regulatory agency, ADEM has lost public credibility and the siting and permitting process has become needlessly adversarial and costly.

There are no easy solutions to the problem of waste management. In each of the eight case studies presented, citizens felt that the decision making process had failed them. We believe they are correct and propose here an alternative approach built around the concerns uncovered during our research. We will begin by addressing representational issues associated with the decision making process and then turn to how more specific issues of concern related to economic and quality-of-life impacts might be addressed if a solid waste facility is to be established.

A fundamental flaw in the existing process of siting solid waste facilities is the assumption that local political leaders can be relied upon to make decisions that reflect informed public sentiment. In fact, our study indicates that local politicians are inclined to act in a manner which minimizes public knowledge, much less input into the decision making process. Formal actions by local governments need to be taken at open meetings, but the matter of a local landfill can be brought forward quietly and a vote taken before citizens have any idea that a landfill proposal is being considered. Once a vote to support a proposed facility is taken by the local political jurisdiction, the proposal goes to ADEM, which becomes a lightening rod for local discontent.

Providing opportunity for open public discussion is a legitimate responsibility of the state government and can be mandated by law. There are important advantages to be gained from public involvement in the decision making process. In technical terms, local residents are more likely to be knowledgeable about seasonal variations in streams or springs, or to provide guidance regarding the presence of social, cultural, economic, or natural resources associated with the proposed site (e.g., a cemetery, prime habitat for wildlife, etc.). Public involvement in waste management decisions can lead to improved decisions, promote environmental awareness, and reduce the likelihood of divisive conflict.

Effective public participation needs to begin at the earliest stages of facility planning and continue throughout the facility's operational life. A common concern voiced by citizens in our eight case study communities was the fear that hazardous wastes would be buried in their area. Establishing a citizens' monitoring group with authority to visit the landfill at any time and the right to review company records pertaining to sources and volumes of waste may reduce levels of distrust and anxiety. Such a group would need to be given adequate training and modest but

independent resources to be effective. The idea of citizen monitors has been successfully applied to water quality issues in Alabama (Droke, 1996). This local monitoring group can also play a central role in helping mitigate other unwanted consequences of the facility, such as truck traffic and the noise of heavy equipment. Limiting the hours when the facility is open and using landscaping and physical set backs to minimize visual and noise pollution are standard solutions to common problems. Involving the public in designing and operating a solid waste facility is likely to build trust.

Economic concerns are important but can be easily addressed if the will to do so is present. A central concern has to do with the possibility of declining real estate values, especially for homeowners in the immediate area of the proposed facility. One approach that could be taken is for the facility operator to offer certain guarantees. As an example, realistic appraisals could be made of homes and other property within an agreed upon radius of the facility (e.g., three miles). Since most landfills are likely to be sited in rural areas, the number of residents immediately affected would be relatively small. Many residents fear that if a major problem arose, they would be unable to sell their property or would have to sell far below current market values. The facility operator could guarantee that if an owner sold property within a period of time (e.g., 5 years) below expected market value (the appraisal plus any change in the overall market since the appraisal), the operator would pay the difference. This represents a significant financial vulnerability to the operator, but if the operator truly believes that the facility will not adversely affect local quality of life or economic values, the actual expenses may be small. The benefits in terms of local public acceptance could be great (Raymond, 1988).

A recurrent concern regarding landfills is the long-term effects of the facility and the limited liability of landfill operators after the facility is closed. Current law requires the operator to maintain the facility for 30 years and to post a financial assurance bond to cover costs of any needed remediation. Some landfill opponents note that a company can file for bankruptcy once the waste stream and the cash flow have stopped, leaving the community with little protection. One possible solution to this problem is for the company to deposit into an environmental escrow account a fixed sum for every ton that is brought to the landfill, with the local political jurisdiction having control over this account. The experience of the EPA's Superfund program suggests there may be merit to local control over financial resources that can be used to address immediate threats to

environmental and public health associated with a problem at the landfill (Fitchen, 1991). This escrow account could be used to build and operate a public water system if groundwater became contaminated, or to recompense property owners affected by a major problem associated with the facility.

In addition to payments into an escrow account, a landfill operator might be asked to provide other forms of financial incentive (e.g., fees per ton paid to the local government, free disposal for local residents, the promise to hire local residents rather than outsiders). The operator also could pay a set fee per ton for repair to roads and bridges used by trucks coming in and out of the facility. These financial inducements, however important, are not likely to be enough to convince many communities that hosting a landfill is in their best interest; opposition may have a strong emotional component not readily addressed with money. However, willingness to address these economic concerns might help establish a basis for trust and communication.

The eight case studies presented here provide concrete evidence that excluding the public from the siting approval process is likely to result in a negative response to proposed solid waste facilities. Insistence upon expert control over planning, design and operation of such facilities indicates a lack of confidence in the public's ability to understand the need for waste management. We believe it is time to try another approach, one based on commitment to openness and trust in the ability of the public to make the right decisions, at least most of the time. One way or another, the public will be involved. We should design our environmental decision making process around this understanding.

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