

# Scaling Environment Justice: The Case of the Waste Isolation Pilot Plant

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## 1. Introduction

The growing body of literature associated with environmental justice documents the extent to which poor, peripheral or minority regions are often burdened with contamination or the siting of new noxious, unwanted facilities [1, 2]. More recently, environmental justice studies have also begun to explore the processes and societal structures that contribute to (in)justice. The environmental justice perspective asserts that instances of local contamination or the siting of noxious facilities in disempowered neighbourhoods are not only problems for those most affected by the facility; such situations are also instances of broader concerns about fairness and equity. At the grass-roots level, in marginalised spaces, residents may adopt the environmental justice frame as a strategy to gain recognition of their ‘local’ problem by regional, national or global actors.

In this paper we problematise this environmental justice perspective, particularly as it relates to the issue of spatial and temporal scale. We utilise the Waste Isolation Pilot Plant (WIPP), the military transuranic nuclear waste disposal facility located in Carlsbad, New Mexico as an example where the environmental justice perspective was *not* (for the most part) invoked by local residents. Since it was mostly members of civil society groups and state and federal elected officials, most living four hours away, who questioned the safety and viability of the facility, while local leaders actively lobbied to bring the facility to Carlsbad, this raises questions regarding 1) what counts as marginalized space and who gets to speak for those spaces, 2) who decides what can be defined as an environmental justice issue, and 3) at what spatial and temporal scale should justice be defined.

Following a further elaboration of the conceptual ideas that underpin this discussion, in the subsequent section we present the WIPP case study.

## 2. Conceptual Framework

Hazardous, nuclear and other noxious facilities are often referred to as Locally Unwanted Land Uses (LULUs). These are typically reported to cause public outcry and the development of opposition groups, particularly for those located closest to the facility. This opposition is said to lead to a Not-in-My-Backyard (NIMBY) attitude of local residents who perceive that the facility will unfairly burden their local area. However, more detailed understandings of NIMBY attitudes have revealed that there are often other reasons for this opposition. First, these facilities may lead to an inequitable distribution of costs and benefits, with the costs concentrated within the siting community [3]. Second, the NIMBY label often assumes that there is widespread agreement on the need and usefulness of the facility. Third, the NIMBY label denies that LULUs are also associated with lack of trust in proponents and regulators and feelings of loss of control within the affected area [3].

Several strategies are understood to counteract these issues. For instance Rabe maintains that facility siting should occur within a broader policy environment in which the public has been widely consulted about the management problem. Further, the actual siting of the facility should occur through a volunteer process wherein local authorities express interest in the proposed project and come forward as potential hosts (pending further negotiations and evaluation of the safety of the site) [4]. We argue that it is particularly this volunteer process that has challenged some of the taken-for-granted notions associated with environmental justice perspectives. By voluntarily agreeing to host a facility, some sense of control and a range of tangible benefits are captured by the local authorities.

The literature generally demonstrates that grass-roots groups organised to fight noxious facilities “have less access to political, legal, and scientific resources than do their opponents” [2, p. 7]. Residents experiencing a contamination issue may adopt an environmental justice frame after frustrating attempts in seeking attention or redress for their situation. Hence, the frame is more than just a point of view, it is also a strategy for action [2].

More specifically, environmental justice can be defined as:

...the fair treatment and meaningful involvement of all people regardless of race, colour, national origin or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies [5, p. 7].

Issues of justice involve both the distribution of noxious facilities and other risks across the landscape as well as the processes and structural contexts within which decisions about those distributions are made [1, 6]. We argue that the pattern and process of (in)equity can be assessed by attention to: 1) *Social Equity*: The fair distribution of risks and costs across society 2) *Spatial Equity*: The fair distribution of risks and costs across the geographic landscape, 3) *Intergenerational Equity*: Risks to future generations, or outcomes that limit their capacity to deal with risks should be avoided, 4) *Procedural Equity*: Siting and decision making procedures must be perceived as fair and legitimate by all

stakeholders and 5) *Structural Equity*: Broader societal contexts and policies (e.g. energy/waste policies, power position of stakeholders) that may unfairly impinge particular stakeholder groups must be acknowledged and addressed during the siting process [7].

Environmental justice frames challenge the scale at which siting or contamination issues should be conceptualised. Rather than envisioning these issues as primarily a local matter, those adopting the rhetoric of justice ‘scale up’ the discussion to the regional, national or global scales. Typically, this refocuses the discussion on issues of social and spatial equity and, perhaps, procedural and structural equity. Moreover, the consideration of intergenerational equity, that has been an integral component of debates about long-lived nuclear waste, also leads to an incorporation of equity through time.

Despite the appeal and power of these understandings of siting issues, since adopting the environmental justice frame is an active choice, alternative constructions of the problem can and do occur. It may be the case that those whose homes or livelihood are affected by the contamination or facility fear that by admitting there is a problem, they may be stigmatising their area and threatening their way of life. Or, that those who would like to oppose the facility or speak up about the contamination may feel economic or social pressure to remain quiet (e.g. fear of job loss) [2]. Alternatively, it could also be that all things considered, the benefits are perceived to outweigh the risks. In all these cases, the environmental justice frame may not be invoked.

Further, as Lane and MacDonald point out, the idea that local actors will automatically be better ecological stewards is largely a myth; local actors may very well support LULUs [8]. This usually occurs when the local community has become economically dependent on the land use for the benefits, such as jobs, that it provides. This support for the undesirable land use is consistent with the notion of NIMBY because the perceived benefits simply outweigh the costs [9, p. 376]. Further, Lober’s research suggests that familiarity with the proposed technology may lower the level of perceived risks associated with the project. Support for a facility is also likely to increase when it is perceived as needed by those most affected [9].

Similar research results were found by Burningham and Thrush about the perceptions of the pollution being created by a local factory. As Burningham and Thrush state, “High levels of concern regarding accidents and pollution (particularly risks to health) coexist with loyalty towards plants which provide employment and investment in local life” [10, p. 215]. They go on to conclude that, “While a problem of environmental injustice may be apparent to ‘outsiders’ looking in on a neighbourhood, the ‘insider’ view often paints the reality differently and may vigorously reject this description” [10, p. 229].

We argue in the next section that a similar situation has occurred in Carlsbad, New Mexico.

### **3. Carlsbad, New Mexico**

#### **3.1 Methods**

In-depth, semi-structured interviews were conducted with 17 key informants from the Carlsbad, Albuquerque and Santa Fe areas between April and May 2005. Most interviews were conducted face-to-face in New Mexico by the two authors. However, given time constraints, some interviews were conducted by telephone upon return from the field site. Supplementary data has also been obtained from various documents including newspaper articles, government publications, journal articles, books, and so on.

#### **3.2. WIPP**

The Waste Isolation Pilot Plant was opened in 1999, in Carlsbad, New Mexico, USA, after over 25 years of study, acrimonious debate and political manoeuvring. WIPP is a disposal facility for transuranic (TRU) nuclear waste related to military Cold War nuclear programs. WIPP has been sited in a layer of salt, about 2100 feet below the surface in an isolated, semi-arid environment, 30 miles outside of the city of Carlsbad. The waste is transported to Carlsbad from over a dozen locations across the United States. Over 61 million people live within 50 miles of these source facilities, many of which are located in remote western areas, including New Mexico. The facility is operated by the US Department of Energy (DOE), with oversight provided by both the State of New Mexico (through the New Mexico Hazardous Waste Act and the federal Resource Conservation and Recovery Act) and the Environmental Protection Agency (EPA) (as directed by Congress in the Land Withdrawal Act, 1992) [11].

In contrast to all commercial nuclear operations in the country, the Nuclear Regulatory Commission (NRC) does not regulate WIPP. Instead, DOE argued that since this was to be a facility for military waste, they would regulate the facility themselves. It took years of protest from both the state and civil society groups to achieve the independent oversight now provided by EPA and the state of New Mexico. This unusual oversight approach is an excellent example of the extensive political controversy and negotiation that underpinned the siting of WIPP. Pressure from both the state and civil society protesters were also instrumental in the establishment of two other oversight bodies the Environmental Evaluation Group (EEG) and the Carlsbad Environmental Monitoring and Research Center (CEMRC). Both of these latter organisations were/are able to conduct research and publish their results without significant interference by government authorities. Although EEG has since been disbanded, these groups brought a greatly needed level of credibility and independence to the facility siting and management process.

### 3.3 Carlsbad

Carlsbad is a city of about 27,000 people, located in the southeastern corner of the state. Traditionally, the city was reliant on potash mining, the oil and gas industry and agriculture for employment. The potash and oil and gas reserves have been in decline for some time with the concomitant loss of economic opportunity and population. In 1972, after a site in Kansas was rejected, the city fathers in Carlsbad secretly approached DOE and offered to host a disposal facility for TRU waste. It was firmly believed that the facility would boost the local economy and bring much needed employment. Although state and federal administrations came and went, and WIPP's future was cancelled or put on hold several times, the city father's unwavering support for the facility eventually paid off with its opening in 1999. Public opinion polls conducted between 1995 and 1998 showed that even at the state level, support for the facility increased from 41 to 49% [12]. Indeed, accounts of the March 1999 opening of WIPP bring to mind a festive celebration, not the protests typically associated with such events.

WIPP has provided about one thousand well paid, highly valued jobs, many of which are held by Carlsbad residents, whose skills in the potash industry were easily transferable to the WIPP context. By all accounts, the WIPP facility is a much safer environment within which to work, when compared to traditional types of employment. Although not considered to be sufficient by city officials, some industrial spin-offs have occurred such as the development of a nuclear waste container manufacturing company (TRUPAC). Recently, the city has been receiving millions of dollars in payments to help it more rapidly diversify and establish needed infrastructure (called acceleration payments). The city is clean, well maintained, with a vibrant downtown, few signs of decay and beautiful parks and trails. This is in sharp contrast to its closest neighbour, Hobbs, that is declining as the flow of oil and gas falls off.

Yet, despite this positive picture, although it has been diminishing, or at least getting quieter, there has been opposition to the facility, even from within Carlsbad. As mentioned, when the city fathers first approached DOE about hosting the facility, this was done secretly to avoid public outcry. Once the proposed facility was publicised, a concerted and ongoing public education campaign was undertaken by both city officials and DOE to assure everyone that the facility is safe and would provide much needed benefits. Appeal was also made to residents' sense of civic duty; the facility would provide a much needed national service. As corroborated by many of our interviewees, dissenting voices were and still are discouraged. As a member of a civil society group stated, "The city power folks were the people who wanted the facility. But people in general had a variety of concerns about it, but ultimately a lot of concerned folks in Carlsbad were intimidated, some of them lost their jobs. Their kids got harassed...it got to the point that it was very hard to publicly say anything against WIPP."

### **3.4 New Mexico**

The State of New Mexico has a long history with the nuclear industry as both the Los Alamos and Sandia laboratories are located in the state. Despite this history, both the federal government representatives and the state officials did not support the development of the facility; these elected politicians used the courts and several other strategies to try to delay or stop the facility [11]. Part of this opposition arose because of the traditional north/south divide that exists in the state; northern New Mexico is typically more liberal in orientation and tends to support the Democrats (particularly in Santa Fe, the state capital), whilst the south is socially conservative and supportive of Republican platforms. All of this has meant that the relationship between Carlsbad and the state can be very tense. As one government official stated, “I think that the City of Carlsbad pretty much hates us...[the city perceives this as being] about jobs, jobs, jobs. They want more, more, more. I think we’re perceived as being obstructionist.”

Opposition has also been related to at least two other issues. First, although Carlsbad volunteered for the facility, the perception was that WIPP was imposed on the state, with little opportunity for input, oversight or compensation. Second, moving the TRU waste from source states to New Mexico has essentially transferred the risk across space, concentrating it in a state that already bears the legacy of Cold War programs and testing. Thus, while source states are eager to be rid of the waste, New Mexico has had to be vigilant regarding the nature and packaging of waste that the source states are sending. As a second government official put it, “The other states, their interest is to get rid of waste at all costs. So that puts us all in an interesting dance.”

### **3.5 Civil Society Dissent and Counter-Opinions**

Beyond the opposition by elected officials, most other dissenting viewpoints about WIPP have been centred in Albuquerque and Santa Fe, located about a four hour drive from Carlsbad. Reasons for this are complex. First, it is clear that the north/south split in worldviews has played a significant role, with those from the north more likely to question the development of such disposal sites. Second, it is equally clear that although some opposition originally originated from within the city itself, over time this has declined, particularly as the employment and other benefits have become apparent.

For decades, Citizens for Alternatives to Radioactive Dumping (CARD), Concerned Citizens for Nuclear Safety (CCNS) and the Southwest Research and Information Center (SRIC) (among many organisations) have been involved in providing alternative perspectives and critical assessments of the WIPP facility. All three organisations are independently funded and rely heavily on volunteers. Despite these limitations, they have continued in their role as monitors of military nuclear undertakings in New Mexico and played a key role in the establishment of the various oversight organisations outlined above.

Echoing issues of distributional and procedural equity, their major concerns include: 1) since the facility is situated amongst ongoing mining and drilling operations, the threat of human intrusion at some future date is quite high, 2) the set of safety standards and other decision-making criteria have been eroded by decades of political lobbying, 3) although EPA and the state of New Mexico have oversight, this cobbled together approach is perceived as less robust than it could be, 4) transportation of the waste imposes risk on hundreds of communities, 5) it is not fair that Carlsbad, and similar communities need to host facilities such as WIPP to gain the attendant benefits, 6) framing the problem of TRU waste as a disposal issue avoids questions about waste production and the continued military use of nuclear weapons, and 7) there is doubt regarding the accuracy of models that predict that the facility will offer protection for thousands of years. Certainly this last point is supported by many sources. While EPA maintains that WIPP can be “reasonably expected” to contain the waste for the next 10,000 years, Ahearne reminds us that “the time period required for safety calculations exceeds recorded human history” [13, p. 766].

#### **4. Discussion and Conclusion**

In contradistinction to the literature about LULUs and NIMBYs, WIPP was not considered a LULU by local authorities, and the environmental justice frame was not invoked; rather this was the position adopted by actors located at a significant distance from the city. The predominant discourse in Carlsbad, as a willing volunteer community, focused on the short-term economic benefits currently accruing to the community. This leads to two concerns, 1) if ‘outsiders’ impose the rhetoric of justice, do they then undermine the local community’s self-determination? And 2) to what extent does the volunteer siting model ‘blind’ host communities to the potential safety issues?

In terms of this second concern, the research clearly indicates that, in this case, the city paid scant attention to questions of safety and oversight. This has also been observed in other studies. Instead, the current level of safety at WIPP was augmented by the intervention of ‘outside’ actors. This suggests that although facility siting is sometimes construed as a ‘local’ problem, local actors cannot, by definition, be counted on to address environmental and health issues. Thus, the role of broader actors can be crucial for the development of safe facilities<sup>i</sup>.

Notice, however, that the environmental justice frame comes more easily into focus when we scale up the problem to the state level and to longer

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<sup>i</sup> Interestingly, the situation in Carlsbad contrasts sharply with that of Oskarshamn, Sweden where the local community is both interested in the economic benefits and is, simultaneously, taking a rigorous approach to assessing the safety of the proposed facility.

time frames. As outlined, New Mexico's officials felt that there were both distributional and procedural equity issues at stake when WIPP was sited within its boundaries. Also, the case demonstrates that there is a broader structural equity issue regarding economically marginalized areas and their need to take on risky facilities for their continued survival. Further, although Carlsbad is reaping short-term benefits, it is not at all clear that that will continue for future generations, particularly if the long-term safety predictions prove to be erroneous, or human intrusion occurs. Finally, at even broader spatial scales, source communities and states, as well as transportation corridor communities are also implicated in these debates about environmental justice. Their concerns must be balanced against those of the hosting regions.

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