

Siting Schemes: Central Governments, State Learning, and Local "Public Bads"

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Over the past four decades, as nations have developed economically and their populations have grown, demands for energy, national defense, waste removal, transportation, and correctional facilities have increased dramatically. Nations have had difficulty siting and constructing the power plants, garbage dumps, roads, railroads, incinerators, military bases, jails, airports, and halfway houses essential to modern life. As a result, resistance to projects such as nuclear power plants and waste dumps has increased to the point where it has been labeled a "disease," a "syndrome," and a "dragon to be slain." The United States, Germany, and Canada, for example, despite a dire need for new waste facilities, have not opened new hazardous waste treatment plants since the mid 1980s. In Japan, the amount of time necessary to site a fossil fuel plant has more than doubled since the 1960s while that for a nuclear power plant has tripled. Despite President George W. Bush's stated interest in increasing the number of nuclear power plants in America none have been ordered since 1978.

Prior research on the siting of noxious or unwanted facilities has produced two main bodies of work, one that focuses on theoretical solutions to such siting problems and another that focuses on citizen activism. The largest body of work can be found in proposed solutions to the "Not In My Back Yard" (NIMBY) problem, with researchers often proposing voluntary strategies for facility siting involving, among other mechanisms, reverse auctions and increased citizen participation.¹ In the other arm of research analysts focus upon the motivations and actions of contentious citizen groups who resist state planned projects.² Both of these primarily qualitative literatures focus on citizens and deal mostly with recent cases and negative outcomes in single countries.

My dissertation differs from most of these earlier efforts because I focus on the actions of the governments, rather than citizens alone, in comparative perspective. I investigate long term governmental strategies in such siting attempts using cases with both successful and unsuccessful outcomes. Through in-depth qualitative investigation of cases drawn from fieldwork in Japan, and a quantitative analysis of a database of cases from Japan, France, and America, I examine the ways in which central governments advance state-promoted but often controversial projects. Most importantly, I seek to understand how states learn from competitive interaction with their challengers, that is, the conditions which allow governmental agencies to systematically alter their strategy and tactics due to past experience with similar circumstances.

Citizens resist attempts at siting a myriad of types of facilities, ranging from medical treatment centers to high speed rail lines, military bases, homeless shelters, prisons, dams, airports, waste dumps, and power plants. Within this enormous universe of cases, my thesis focuses only on projects which are sponsored or initiated by central governments. For example, while industrial waste repositories and prisons often trigger "Not In My Back Yard" (NIMBY) responses, jails and waste facilities in most advanced democracies are usually owned either privately or by local governments. Nuclear power plants, airports, and dams comprise facilities involving enormous capital investment and long lead times and require government assistance to compensate for market failure, and my thesis focuses on government strategy in these three fields. In these cases, the government itself is often the entrepreneur or becomes involved through intensive regulation. For example, national governments around the world continue to be deeply involved in nuclear power projects at a number of levels. Researching, planning, siting, and building these reactors requires enormous levels of capital formation, high level coordination among companies, and state intervention through direct funding, tax subsidies, assistance with research and development, regulatory changes to environmental and tort law, and the amortization of risk across the population.

Facility Siting as a Window on State-Citizen Interaction

My thesis investigates projects originating in national policies which provide benefits for the majority of citizens, but which negatively affect certain areas more than others. Labeled by some as local "public bads," they are in essence the converse of public or collective goods, such as national defense, which have the characteristics of diffuse costs, less-concentrated benefits, nondivisibility and nonexcludability. In the language of political economy, I am investigating facilities that have broad, diffuse benefits but highly focused costs. Facility siting provides an extraordinary window into state-citizen interaction because such cases are geographically and chronologically bounded, generate high levels of media and secondary literature coverage, and spark heightened citizen participation even in a time of declining involvement in politics.

Even though such projects, with their enormous capital requirements and long lead times, require government intervention to compensate for market failures, they are the worst cases for governments to handle. The geographically dictated concentration of nuclear power plants, dams, waste



Notes

¹ See Euston Quah and K.C. Tan, *Siting Environmentally Unwanted Facilities: Risks, Trade Offs, and Choices* (Northampton MA: Edward Elgar, 2002); Hank Smith and Howard Kunreuther, *Mitigation and Benefits Measures as Policy Tools* (Draft manuscript 2000); Howard Jenkins-Smith and G. Bassett, "Perceived Risk and Uncertainty of Nuclear Waste," in *Risk Analysis*, 14(5) 1994 pp. 851 - 856; and Michael Gerrard, *Whose Backyard, Whose Risk: Fear and Fairness in Toxic and Nuclear Waste Siting* (Cambridge MA: MIT Press, 1994).

² See Thomas Wellock, *Critical Masses: Opposition to Nuclear Power in California, 1958 - 1978* (Madison, WI: University of Wisconsin Press, 1978); Dorothy Nelkin and Michael Pollak, *The Atom Besieged* (Cambridge, MA: MIT Press, 1981); Elaine Touraine, Zsuzsa Hegedus, Francois Dubet, and Michel Wieviroka [translated by Peter Fawcett], *Anti-nuclear protest: the opposition to nuclear energy in France* (Cambridge: Cambridge University Press, 1983); Christian Joppke, *Mobilizing Against Nuclear Energy* (Los Angeles: University of California Press, 1993); and Velma Garcia-Gorena, *Mothers and the Mexican Antinuclear Power Movement* (Tucson: University of Arizona Press, 1999).

dumps, and other facilities is a reality from which local citizens cannot escape. With costs concentrated on a small group in a local area, barriers to collective action are greatly reduced (Olson 1965, 1982).

State Strategies and Learning

The literature on the tools and strategies available to central states when dealing with protest and resistance has fallen primarily within the "social control" category, focusing on policing, surveillance, and repression mechanisms. Political scientists have applied the theory of social control, initially developed by Edward Ross, in studies of the repression of political opposition (Scheerer & Hess 1997). These works have focused on the ways in which authorities attempt to maintain stability through police and armed responses to protestors (Della Porta & Reiter 1998, Braithwaite 1989). While it is certainly true that the most common state response to protest and resistance is visible policing, surveillance, and the panopticon (Foucault 1979), researchers have begun to uncover additional means of absorption, co-optation, and repression (see Nakamura 2002). However, many researchers still focus only on contentious citizen challengers as sources of tactical innovation, without attempting to investigate creative and unexpected responses from state actors.

My research has uncovered a wide spectrum of tools created by state authorities, ranging from hortatory (with the Japanese Prime Minister presenting yearly awards to local leaders who promote the siting of such facilities) to educational (providing schools with curricula stressing the need for such projects and sending educators to targeted areas to hold workshops) to incentive-providing mechanisms (through such laws as the Three Laws Relating to Electricity Production, *Dengen Sanpou* in Japanese, which provide funds for new roads, schools, medical and welfare facilities, job training, and the like). The government has created, among other days, Nuclear Power Day and Nuclear Power Safety month, stressing the safety and necessity of its nuclear program through public concerts, commercials, and events. The Japanese government invites bureaucrats from local governments whose towns have been targeted for nuclear power plants to seminars in Tokyo, providing them with materials and arguments for use in convincing local citizens about the need for reactors. Citizens in towns targeted for power plants receive discounts on electricity and benefit from a huge increase in property taxes. The central government also provides money so that citizens in targeted areas can be taken on tours of operating nuclear power plants in other areas so that they will feel less apprehensive about having one of their

own.

Central governments still have recourse to coercive tools like eminent domain in which the state appropriates land held by private citizens for market or less than market value; merely the threat alone of receiving pennies on the dollar for one's land is often incentive enough to sell. However, most advanced democracies have moved away from these coercive mechanisms to the more subtle strategies outlined above. Further, these "submerged" tools have been refined and adapted over time as authorities have interacted with citizen challengers. The intensity and length of the period of interaction between state authorities and citizen challengers which takes place in facility siting provides an ideal opportunity to investigate the possibilities of state learning.

The field of political science has only begun to develop theories about "state learning," or the ability of government bureaucracies and networks to deliberately modify strategies based on previous experiences. Currently, the field has four main approaches to state learning: rigidity, garbage can, punctuated equilibrium, and incremental approaches. Space precludes a fuller discussion of each, but in short, rigidity approaches argue that organizations like states rarely change strategies despite altered environments or intense opposition (see Kitschelt 1986). The garbage can approach argues that "solutions" to external problems are merely streams of internal resolution that coincided with such difficulties (March and Olson 1976). Punctuated equilibrium approaches argue that systems remain in status quo until a major shock, such as war or mass demonstrations, at which point authorities move to solve the problem, and then return to status quo (Calder 1986, Skocpol 1992, Kryder 2000, Kasza 2002). Incremental approaches argue that states change their policies only slowly regardless of the magnitude or pace of external difficulties (Argyris and Schon (1978) call this single loop learning). My thesis moves away from these earlier approaches to develop the idea of institutional coevolution, in which the state alters not only its strategies and tactics but also its institutional structure to better cope with its challengers, and predicts the conditions under which such competitive learning will occur. In this dialectic between state and citizen, the central government further refines its siting strategies in an attempt to improve their effectiveness in what may be a continuous stream of changes. This idea of rapid and sustained response to changing externalities can be found in studies of organizational behavior but has not



Siting Schemes *continued*

been well developed in other contexts.

Through its investigation of facility siting my dissertation sheds light on the ways in which citizens have responded to various state approaches to siting and the manner in which states in turn have reacted to citizens. I hope that my thesis will yield insights into state-citizen interaction that will benefit citizens and decision makers alike.



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