

Cognitive and Institutional Barriers to New Forms of Cooperation on Environmental Protection

Insights from Project XL and Habitat Conservation Plans

ANDREW J. HOFFMAN

Boston University

HANNAH C. RILEY

JOHN G. TROAST, JR.

MAX H. BAZERMAN

Harvard Business School

Many perceive the predominantly command-and-control structure of regulatory policy to be overly restrictive and inefficient in achieving America's emerging environmental goals. In response, the U.S. government has introduced several voluntary programs to develop innovative, beyond-compliance environmental management solutions through the collaboration between government agencies and regulated entities. Yet, these programs have not gained widespread acceptance. This article analyzes the cognitive and institutional barriers to that acceptance by looking specifically at two programs—Project XL and Habitat Conservation Plans. These barriers act out of force of habit, creating a resistance to change and a rejection of new forms of regulatory policy. The authors argue that policy change requires a shift in how individuals think and how institutions guide that thinking.

Although legal standards have achieved impressive gains in environmental protection and wildlife conservation since the 1960s (Easterbrook, 1995), some argue that the methods they employ are out of date with contemporary environmental problems and that such standards are becoming increasingly inefficient in achieving our emerging environmental goals. Existing standards and enforcement programs are perceived to be too rigid and restrictive to foster the type of private innovation (rather than mere compliance) that is required to identify and

Authors' Note: The authors would like to acknowledge the research support of the Kellogg Environmental Research Center. In addition, we thank Michael Tushman and Marc Ventresca for comments that have helped to improve this article and Nicole Nasser for expert editing. Direct correspondence to Andrew J. Hoffman, Boston University, School of Management, 595 Commonwealth Avenue, Boston MA 02215, e-mail: ahoffman@bu.edu.

AMERICAN BEHAVIORAL SCIENTIST, Vol. 45 No. 5, January 2002 820-845
© 2002 Sage Publications

implement solutions that are both environmentally and economically sustainable (Schmitt, 1994). Believing that we are rapidly approaching the point of diminishing returns on command-and-control environmental regulation, many see the existing policy regime as possibly the greatest obstacle to continued environmental improvement.

In response to these concerns, the U.S. government has introduced a host of voluntary programs that are designed to foster collaboration between government agencies and regulated entities on the development of innovative, beyond-compliance environmental management solutions. The objective of such programs is compelling: to uncover ways for regulated entities to save money and achieve higher environmental protection standards than are guaranteed by existing regulations. Unfortunately, adoption of these programs has been slow. This article introduces two examples of such voluntary programs in the areas of pollution control and wildlife habitat conservation—Project XL and Habitat Conservation Plans, respectively—and explores cognitive and institutional barriers to their successful adoption in the private sector.

The predominant regulatory policy regime over the past 30 years has been a command-and-control structure in which regulatory agencies set the standards to which corporations must adhere under threat of penalty (Hoffman, 1997). It is a top-down approach that many critics see as heavy-handed. These legal standards often lock organizations into a focus on strict legal compliance rather than the attainment of environmental goals (Tenbrunsel, Wade-Benzoni, Messick, & Bazerman, 1997). Once standards are written, program managers within both government and industry become constrained by a compliance mindset and bureaucratic procedures that attenuate the creative search for more economically and environmentally efficient choices that might deviate from the standard. A given rule structure dictates which pollutants and sources to control, to what extent, and with what technologies across a broad spectrum of disassociated industries. Thus, standard-based systems define the incentive systems for individuals and promote self-interested and expedient behavior that interferes with overarching organizational as well as societal interests (Tenbrunsel et al., 1997). Creativity goes unrewarded and individuals just follow the rules.

But, alternative regulatory programs are now being proposed that employ a negotiated form of compliance tailored to the needs and potentialities of individual organizations and environmental contexts. This new approach is “characterized by a new kind of legal self-restraint . . . [that] restricts itself to the installation, correction, and redefinition of democratic self-regulatory mechanisms” (Teubner, 1983, p. 239). Cooperative environmental policy fundamentally reconfigures the role and objectives of both oversight agencies and the regulated community. Instead of mandating environmental policy, regulators seek out the input and participation of other parties with site-specific knowledge about the nature of environmental problems they encounter and the potentially innovative solutions available to resolve them. These may include regulated private sector organizations, nonprofit organizations, scientific communities, local and state

governments, community organizations, and others. Through negotiation among these interested parties, corporations gain the flexibility to define which emission sources to control through site-specific compliance strategies that achieve broadly defined objectives (Schmitt, 1994). Cooperative environmental policy strives to reward proactive companies for seeking competitive advantage through environmental innovation beyond regulatory standards (Fiorino, 1999).

This article considers cooperative regulation as an opportunity for creating value for all interested parties in a setting that recognizes both their competing and complimentary interests. The goal is to maximize environmental gain while minimizing economic costs (both in legal confrontation and operational reconfiguration). However, this balance is contrary to the historically predominant view of the relationship between environmental protection and economic growth. Over the past 30 years, environmentalists and business/development interests have fought a zero-sum battle in which environmentalists have tried to strengthen regulations and business/development interests have attempted to weaken them. This zero-sum confrontation is represented as a win-lose environmental negotiation as depicted in Figure 1 (Hoffman et al., 1999). In this view, environmental gains cannot be achieved (moving from the southeast, point B, toward the northwest, point C) without incurring economic costs. (See Bazerman, 2002, and Thompson, 2001, for review of how parties frequently fail to create value in negotiation because of a myopic focus on value claiming.)

Unfortunately, while parties are fighting this zero-sum battle to enhance or weaken environmental legislation, the result is often intractable positions and inefficient regulation. Opportunities to develop wiser legislation—better for environmental and economic interests—are lost. Voluntary programs, such as Project XL and Habitat Conservation Plans, offer a model for negotiations that could realize value-creating and efficiency-enhancing trades by improving on rules that are very costly to economic interests and minimally beneficial to the environment with innovations that produce cost reductions and environmental gains. As illustrated in Figure 2, these programs enable the parties to make a mutually beneficial move from point X to point Y and to transform the regulatory relationship from a win-lose to a win-win scenario.

We would not want to suggest, however, that the path from point X to point Y is a direct one. Economic and environmental interests are in both a competing and complimentary relationship. Figure 3 merges Figures 1 and 2 creating a mixed-motive situation. Although the stated goal might be to move from point A to point D, a more realistic representation of the negotiation is depicted by the move from the B-C line to E-F line, in which mutual gains are maximized but not necessarily evenly divided.

In this article, we will analyze some of the reasons why programs that shift from a command-and-control regulatory mode to negotiated arrangements encounter resistance. We focus specifically on two programs in the areas of industrial pollution control and wildlife conservation, Project XL and Habitat Conservation Plans, respectively. Project XL (eXcellence and Leadership) is a

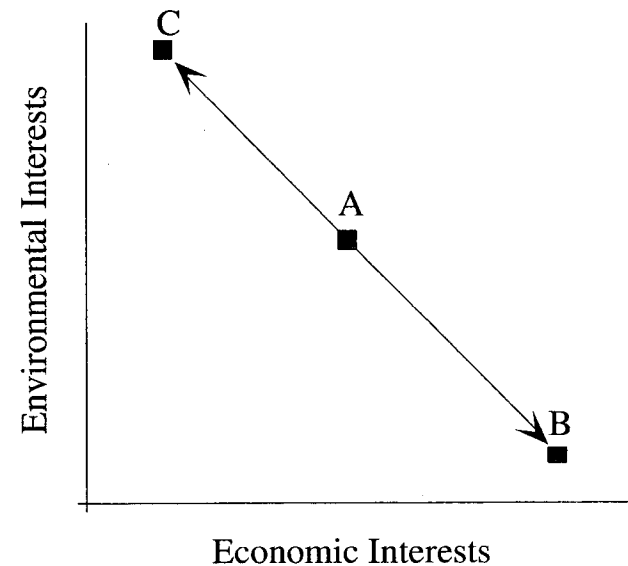


Figure 1: The Win-Win Negotiation

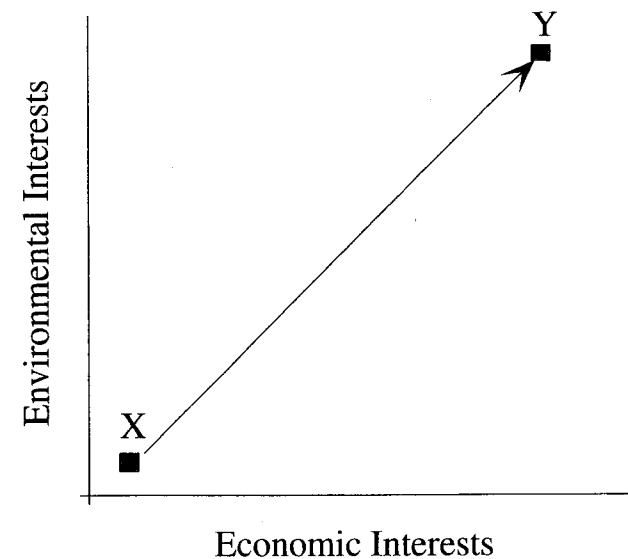


Figure 2: The Win-Lose Negotiation

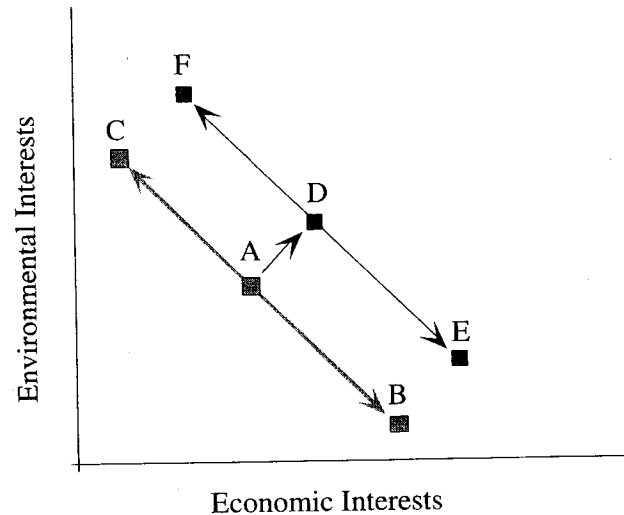


Figure 3: The Mixed-Motive Negotiation

program that allows individual exemplar companies to have greater flexibility in achieving the environmental objectives of the myriad of environmental regulations provided that they reduce discharges below current regulatory standards. Habitat Conservation Plans (HCPs) are an emergent type of regulatory variant that offers landowners an opportunity to negotiate compliance with the Endangered Species Act (ESA) while still retaining more commercial control of their land. Neither program involves modifying existing environmental standards but allows companies an alternative compliance process that they can negotiate on a voluntary basis. Each program calls for a form of negotiated agreement necessitating new forms of cooperation—not only between the government and the regulated community but also among environmentalists, scientists, community representatives, and others. In our view, these new programs involve shifts in thinking that conflict with both the cognitive biases of those involved in the process and the institutional biases of the organizations and systems in which they are embedded. In the rest of this article, we will elaborate on the mechanics of these programs and discuss the cognitive and institutional barriers to developing them effectively.

REINVENTING REGULATORY POLICY: ENCOURAGING COOPERATION

Although regulatory reform has been an initiative of every president since Gerald Ford, it has met with limited success (Weidenbaum, 1997). Most

recently, in 1996, the Clinton administration pledged the goal of “reinventing government” by reevaluating the overall regulatory process (Council of Economic Advisors, 1996). One of the primary initiatives of this effort, developed under the National Partnership for Reinventing Government (formerly the National Performance Review), was the task of replacing command-and-control regulation with service-based and innovation-oriented programs. In particular, the initiative focused on the following four tasks: eliminating obsolete regulations, rewarding environmental results that cut red tape, creating grass roots partnerships rather than Washington-based federal efforts, and negotiating with the regulated community rather than dictating standards (National Performance Review, 2000). Elaborating on this latter task, the federal government set out to encourage consensus-based rule making to improve regulatory science and to encourage more innovative approaches to regulation (National Performance Review, 1993a, 1993b). The Clinton administration anticipated that Project XL and the use of HCPs, designed around the objective of fostering cooperation through negotiation, would serve as exemplars of the reinvention initiative.

INDUSTRIAL POLLUTION CONTROL AND PROJECT XL

The Environmental Protection Agency (EPA) regulates industrial pollution through a wide variety of regulations covering various media and sources. These laws are based on a command-and-control format, are segmented by media (such as air, water, hazardous waste, and so forth), and are generally in the form of uniform technology requirements based on what is the best presently available. Yet, the complexity and level of control of these regulations has grown to unwieldy proportions over their 30-year history. Observing deep and fundamental flaws, the Mellon Foundation charged that “the system’s priorities are wrong, it is ineffective in dealing with many current problems, and it is inefficient and excessively intrusive. . . . The future system should be results-oriented, integrated, efficient, participatory, and information rich” (Davies & Mazurek, 1997, p. 48).

In response to such criticism and the president’s call for reinventing government, the EPA has set itself on a series of “high-priority and significant actions aimed at improving the current regulatory system and laying the groundwork for a new system of environmental protection.” These efforts are designed to “achieve better environmental results through the use of innovative and flexible approaches to environmental protection” by promoting private sector innovation, increasing community participation, and making “it easier for businesses to comply with environmental laws by offering them compliance assistance and incentives to prevent pollution at its source” (U.S. General Accounting Office, 1999, pp. 22-23). One prominent example of this initiative is Project XL.

Introduced in May 1995, Project XL is intended to foster cooperation between the EPA and regulated companies in the development of more cost-efficient and effective environmental protection. It is a pilot program with the

explicit agenda of supporting projects that produce innovations that are transferable to other facilities. To be eligible, companies must demonstrate that, through environmental management or technological innovation, they can produce superior environmental performance (SEP) as compared to a baseline projection from the status quo. The project must produce private and regulatory cost savings, be supported by stakeholders, and avoid shifting safety risks to other potentially affected parties (U.S. Environmental Protection Agency, 1999). In essence, the EPA offers regulatory flexibility with accountability in exchange for new learning, beyond-compliance environmental management, and stakeholder involvement. Approval of an XL permit considers the compliance history of the applicant firm, the input of affected parties (e.g., community groups and local and national environmental interests), and monitoring protocols that keep the agencies and other stakeholders abreast of project performance through a regular reporting scheme (Robertson & Jett, 1999).

Unfortunately, Project XL's success rate has been mixed. The number of projects approved and implemented has fallen short of the EPA's initial learning and reengineering objectives. Although there are nearly 27,000 facilities that release hazardous and toxic materials (those filing Toxics Release Inventory Reports with the EPA), only three XL projects were proposed in 2000. As shown in Figure 4, the number of approved XL projects remains low and agency representatives are searching for ways to gain greater involvement in the program from the regulated community.

ENDANGERED SPECIES PROTECTION AND HABITAT CONSERVATION PLANS

Similar to the EPA, the Departments of the Interior and Commerce have been undertaking regulatory reform in the area of endangered species protection. The ESA, often seen as one of the powerful yet inflexible and controversial regulatory programs (Lowry, 2000), provides another opportunity for reinventing government. Enacted in 1972, the ESA prohibits the "tak[ing]" of any federally listed animal or plant species considered "endangered" or "threatened" on public and private lands. To "take," as defined in the ESA, means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (ESA, Section 3[18]). This includes any habitat modification that impairs species reproduction. The prohibition on taking protected species has traditionally resulted in the imposition of severe land-use restrictions.

Overall, critics of current ESA implementation charge that it has public costs in terms of excessive administration, enforcement, and litigation, as well as private costs in terms of diminished property rights. For private development interests, restrictions on their lands appear to violate sacrosanct private property rights without just compensation. Critics of the program argue that this imposition causes landowners to oppose species protection as contrary to their own

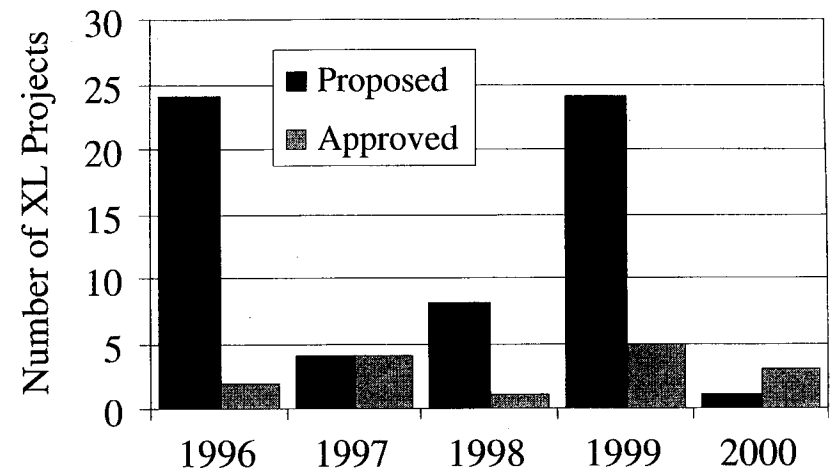


Figure 4: Project XL Projects Proposed and Approved by the U. S. Government From 1996 to 2000

economic interests. The ESA, for example, imposed major restrictions on the timber industry with the listing of the northern spotted owl in 1991. For the timber industry at large, a long, protracted battle with the government ensued, resulting in some relaxed restrictions for smaller timber companies (Westneat, 1996) but significant restructuring of the northwest industry as a whole.

This adversarial conflict creates private incentives that are contrary to the objectives of species protection, for instance, to destroy species' habitat for fear of government intervention or, in the words of one landowner, "shoot, shovel, and shut up" (Crismon, 1998). The case of Ben Cone is an example of a logger who sustainably managed a 10,000-acre tract of timber in South Carolina until the 1991 ESA listing of the red-cockaded woodpecker threatened the commercial use of his property. Due to the presence of a couple dozen woodpeckers, his land was subject to harvesting restrictions on 1,560 acres. To avoid further restrictions, Cone clear-cut major portions of his remaining property (Baden, 1995). Although an exaggerated case, this highlights how adversarial conflict on species protection can harm both private and public interests.

Private participation is necessary for species protection to be successful. According to the United States General Accounting Office (GAO), more than a third of the 1,000 animal and plant species listed as endangered can be found only on private property (Cohn, 1998). There is also a growing consensus among biologists that we must move away from an orientation toward individual species protection and press instead for more holistic habitat conservation (Noss, O'Connell, & Murphy, 1997). This shift increases the need for private interest

participation in species protection because habitats know no boundaries between public and private lands.

In an effort to foster private interest participation and develop solutions beyond traditional methods of command-and-control species regulation, reform efforts have promoted the use of HCPs. Congress introduced HCPs in 1982 as an amendment to the ESA under Section 10(a)(1)(B). The intent of Congress was to integrate a broad-based ecosystem-oriented planning mechanism into the objectives of species protection while also creating greater regulatory certainty for private landowners in the future in exchange for enhanced habitat conservation. Specifically, an HCP allows for the "incidental taking" of endangered species in exchange for a commitment by the landowner to provide a more extensive habitat design intended to provide enhanced protection for the species over a longer time horizon (U.S. Department of the Interior, U.S. Fish and Wildlife Service, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, and the National Marine Fisheries Service, 1996).

However, for the first 10 years of the program, HCPs saw little use (Noss et al., 1997). It has only been since 1995, with the encouragement from Secretary of the Interior Bruce Babbitt under the Clinton administration, that plans in excess of 1,000 acres were proposed and HCPs emerged as a planning tool consistent with the original intent of Section 10. Overall, HCPs have met with only moderate success. Shown in Figure 5, the government has approved only 250 HCPs since 1983. These include several large acreage plans for timber companies including Weyerhaeuser, Plum Creek Timber (a detailed analysis of the Plum Creek Bull Trout HCP can be found in Troast, Hoffman, Riley, & Bazerman, in press), Pacific Lumber, International Paper, Union Camp, and MacMillian-Blondel. Although some have lauded these HCP initiatives, others see them as a means for the industry to circumvent the ESA (Cohn, 1998). As with Project XL, HCPs have yet to be fully accepted as a new form of cooperation and neither has achieved the level of adoption hoped for by policy reform advocates. In the next section, we will consider obstacles in gaining their acceptance.

OBSTACLES TO THE ADOPTION OF PROJECT XL AND HCPs AS THE DOMINANT DESIGN

Despite the as yet unrealized potential of these programs, the concept of negotiated outcomes remains an attractive alternative to the command-and-control aspects of regulation. Through Project XL and HCPs, the government acts as "collaborator" rather than arbiter of the rules (Skocpol, 1985), working with business to develop better pollution control or habitat conservation through negotiation rather than top-down control. These programs offer a new architecture that emphasizes performance-based systems (that specify desired outcomes) rather than technology-based standards (that prescribe methods of

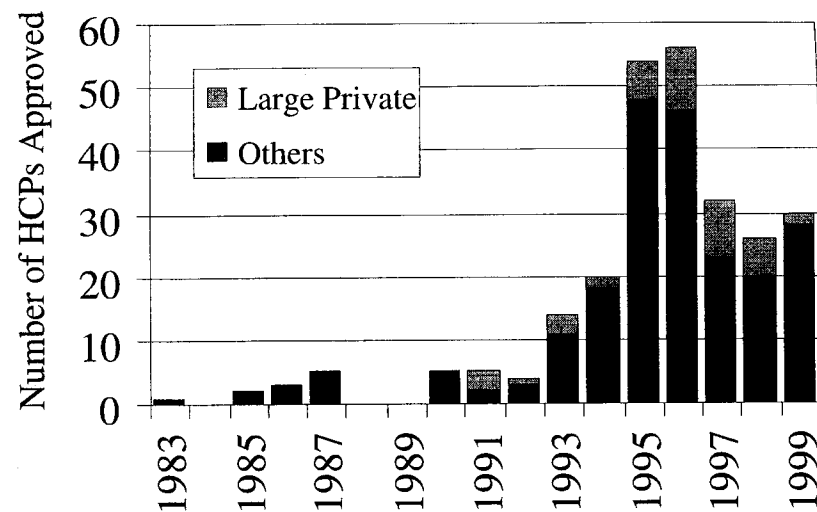


Figure 5: Obstacles to the Adoption of Project XL and HCPs as the Dominant Design

compliance) while more effectively engaging the broader community (Sabel, Fung, & Karkkainen, 1999). Logically, this would appear to be a better alternative than protracted compliance battles that fill overcrowded court dockets. In a collaborative arrangement, business, government, and others can increase the knowledge base that will improve environmental principles and practices over the long term.

Project XL and HCPs represent a new platform for policy implementation, a competing policy design to the presently dominant structure of command-and-control. We are presently in a period of discontinuity in which the existing regulatory systems are seen as inconsistent with emerging goals or objectives that seek to satisfy both environmental and economic interests. These new programs can be seen as variants in the challenge to become the "dominant design" (Anderson & Tushman, 1990) in industrial pollution control and endangered species protection. Their emergence represents the beginnings of a transition from an era of incremental change based on the status quo to an era of ferment (Anderson & Tushman, 1990) in which competing designs seek market acceptance and legitimacy. The ultimate dominant design will emerge among the competing models promoted by rival organizations, strategic alliances, and governmental regulators (Tushman, Anderson, & O'Reilly, 1997). Hence, the process is strategic, political, and social, with organizations entering the process and attempting to direct its outcome. The obstacles to this process must also be seen in this way.

Resistance to the acceptance of programs such as Project XL and HCPs comes from years of history and practice that take the form of cognitive and institutional inertia. We argue that to create policy change, we must change how individuals think and how institutions guide that thinking. Both individual cognition and societal institutions act by force of habit, creating resistance to change and a rejection of new forms of regulatory policy. They present psychological and cultural constraints, which alter individual and organizational perspectives on issues such as pollution control and endangered species protection. To move beyond them, we must consider the interplay of varied organizational actors and the contending logics, authority structures, and conflicts that occur among them (Ventresca & Washington, 1998). Conceptions of the value of endangered species protection, the sanctity of a pristine environment, the responsibility of the corporation toward protecting them, and the role of the government in motivating such action are all mediated by individual cognition and societal institutions (Hoffman & Ventresca, 1999). Only by identifying the core, taken-for-granted beliefs (or myths) that reside on both of these levels can we understand the persistence of inefficient regulatory designs and the barriers to new and more efficient forms of cooperation.

COGNITIVE BARRIERS TO EFFICIENT ENVIRONMENTAL COOPERATION

Negotiators representing environmental and economic interests often reach solutions that are not on the efficient frontier as depicted earlier in Figure 3 because of the assumption that they have opposing interests. Bazerman (1983) labeled this assumption the "mythical fixed-pie," highlighting the failure of negotiators to find mutually beneficial trades as a result of the myth that what is good for one party is bad for the other party. As noted earlier, this is a maladaptive assumption in environmental disputes. Bazerman and Hoffman (in press) argue that the mythical fixed-pie is particularly strong in the environmental arena as a result of the mistrust and antagonism between parties. Furthermore, highly charged emotional issues, typified by environmental versus economic disputes, often create additional biases—such as pseudo-sacredness and egocentrism—that exacerbate the fixed-pie assumption. We will discuss each in turn.

The mythical fixed-pie reduces the possibilities for beneficial trades. The fixed-pie assumption creates tremendous cost to the disputants, the environment, and society. Bazerman, Moore, and Gillespie (1999) used the false logic of the fixed-pie to explain the inefficiency in the case of hazardous waste dumps and Superfund laws (also known as The Comprehensive Environmental Response, Compensation, and Liability Act). Toxic waste cleanup is a complex problem, offering a range of alternative approaches, yet, the fixed-pie perspective is typical among protagonists. One article advocating tighter regulation of hazardous waste dumps declared, "We must pass an effective Superfund law. If the

polluters win, then we lose—our tax money, our environment, and our health" (Pandya, Rosenfeld, & Caffee, 1998). Yet, the government and industry have spent more on legal costs to fight over Superfund cleanup liability than it would have cost to clean up the sites. Obviously, these actions are not on the efficient frontier.

The mythical fixed-pie prevents disputants from cooperating to integrate their interests. Negotiators may not be opposed to tradeoffs, and identifying tradeoffs can be quite easy when negotiators seek them. Yet, negotiators fail to identify them because of the assumption that the parties' interests are perfectly opposed. The fixed-pie assumption may be the most formidable barrier our minds erect to wiser environmental agreements. Thompson and Hastie (1990) found that 68% of negotiators studied expected no opportunities for mutual gain or for reaching an integrative agreement. This is a false assumption in virtually all complex negotiations, and is certainly false for all negotiations with Project XL and HCPs. But, growing the pie requires the exchange of information. Experimental negotiation research suggests that a greater exchange of information would allow business and ecological interests to generate wiser environmental agreements as it is consistently related to improved negotiation performance (e.g., Weingart, Thompson, Bazerman, & Carroll, 1990). After reviewing 32 negotiation experiments, Thompson and Hrebec (1996, p. 405) conclude that "remarkably few people provided or sought information about the other party's interest during negotiations (about 20% and 7%, respectively)."

The mythical fixed-pie results from the tendency of people to overgeneralize purely competitive situations instead of seeing them as mixed-motive situations. Bazerman (1983) suggested that the fixed-pie assumption is rooted in social norms that lead us to interpret most competitive situations as win-lose. Furthermore, many of our judgmental strategies become institutionalized as our organizations adopt the competitive mindset of competitive individuals (Bazerman, 1983), making it difficult to create sustained change in individuals, groups, or organizations. For example, lawyers play a critical role in environmental disputes as a high percentage of environmental disputes are either resolved in the courtroom or against the backdrop of pending legal action. Unfortunately, the dominant orientation of the American legal system is win-lose and extremely competitive, and trades are likely to be lost (Bazerman et al., 1999). The parties in environmental disputes assume that the core issue is tougher or stronger regulation, and miss opportunities for wiser regulation.

Pseudo-sacredness exaggerates the claims among the parties. Creating the trades to overcome the mythical fixed-pie is exacerbated by a (often false) perception that issues in environmental negotiations are sacred. Environmentalists take positions that no tree should ever be cut in a national forest, whereas landowners take the view that no one has a right to tell them what can be done on their land. Both parties treat their issue as sacred and miss the wise trades that can be created through mechanisms such as HCPs and Project XL. Critics of HCPs

have shaped their arguments in the context of the sacredness of any endangered species, thus questioning a program that supports the incidental taking of some species. In an editorial that appeared in *The Seattle Times*, members of RIDGE, a local environmental group posed the question, "Can ecosystem destruction be compensated? Or mitigated?" (Fraser & Belew, 1996). The answer was "no." The claim of sacredness eliminates the possibility for any discussion that would allow the discovery of possible trades. Bazerman et al. (1999) and Thompson and Gonzales (1997) recognized that there are issues that a party would never trade under any realistic circumstance but argue that there exists another group of issues that are labeled sacred, but for which the potential for trade does exist.

Egocentrism creates different views of fairness. Another important cognitive barrier to creating wise trades is the psychological tendency to see the fair resolution of a dispute in a way that is favorable to one's interests. Egocentrism is a self-serving bias in one's honest assessment of what would be fair (Messick & Sentis, 1985; Wade-Benzoni, Tenbrunsel, & Bazerman, 1996). Wade-Benzoni et al. (1996), for example, showed that much of the problem in the fisheries' crises is that the multiple constituencies each simply want what is fair but have very different notions of what would constitute a fair settlement. As a result, each constituency harvests that amount of fish they believe they are entitled to, and collectively, too many fish are taken.

Cognitive barriers often lead to mistrust. Collectively, the mythical fixed-pie, pseudo-sacredness, and egocentrism create an environment of mistrust as each competing interest believes its own views and lacks the ability to find creative trades. Mistrust becomes another barrier. Citrus juice manufacturer Jack M. Berry, Inc., was the first Project XL candidate the EPA approved approximately 1 year into the program. A government case analysis of the project (U.S. Environmental Protection Agency, 1998b) described how company and government negotiators overcame long-established mistrust to build a working partnership.

The industry routinely looks at government as a threat. Berry employees often felt intimidated by government personnel, fearing they might give the wrong answer or cause a violation and lose their job. The project succeeded in eliminating this intimidation; employees are now comfortable talking with government personnel. No other company in the industry thought the Berry project could be done. . . . The project, however, succeeded in proving teamwork is possible and makes sense. It is important to be open and flexible with people in order to build trust. The dynamics of people working together is very important in this kind of project. (p. 35)

Collectively, we see the mythical fixed-pie, pseudo-sacredness, and egocentrism as cognitive barriers exacerbating the problem of informing protagonists to use new institutions that help grow the pie of resources. We do not see these barriers as insurmountable but we do believe that they need to be dealt with to institutionalize new and improved ways of resolving environmental disputes.

INSTITUTIONAL BARRIERS TO EFFICIENT ENVIRONMENTAL COOPERATION

Beyond the level of the individual, resistance to new forms of cooperation can emerge from institutions (Scott, 1995) embedded within organizations and social structures. Institutions are the laws, rules, protocols, standard operating procedures, and accepted norms that guide organizational action. Scott (1995) distills theory and empirical research on institutions into the following three foundational pillars: regulative, normative, and cognitive aspects. Regulative aspects of institutions are based on legal sanction to which organizations accede for reasons of expedience. Normative aspects of institutions are morally grounded, to which organizations will comply based on social obligation. Cognitive aspects of institutions reference the collective constructions of social reality via values, language, meaning systems, and other rules of classification embodied in public activity (Zucker, 1983). These three aspects are operationally intertwined (Hirsch, 1997; Scott, 1995) and are present in all forms of institutional control (Greenwood & Hinings, 1996). So, although Project XL and HCPs may represent shifts in the regulative elements of institutions, they trigger deeper institutions in the normative and cognitive levels. At these levels, we can begin to see the sources of conflict and resistance to their adoption. In this section, we will analyze seven.

The shifting role of government as negotiator rather than arbiter of the rules. Regulation characterized by a command-and-control relationship establishes the government as the arbiter of the rules (Skocpol, 1985). In this role, the government can be seen as dictating what is best for the environment and the public rather than facilitating collaborative problem solving with industry. This role is considered appropriate by society for exercising power and ensuring appropriate behaviors within industry (Powell & DiMaggio, 1991). This is the established order, and the shift from command-and-control to negotiated self-control involves new sets of values based on a new level of trust within government for the regulated community.

Project XL and HCPs represent a revolutionary value change in the government's regulatory relations ("EPA offers innovative firms the chance to excel," 1995). For cooperative regulatory programs to build creative partnerships, trust emerges as a critical component of the collaborative process (Ruckelshaus, 1996). Trust is a salient institutional concept conferring legitimacy on the evolution of formal social structures (Zucker, 1986) and is an essential component in collaboration for the efficient exchange of information (Ring & Van de Ven, 1994; Wasserman & Galaskiewicz, 1994). Government must trust industry as a partner in working toward the common objective of efficient environmental protection (Marcus, Geffen, & Sexton, in press).

However, historically adversarial relations coupled with a deeply entrenched belief in the mythical fixed-pie create resistance to change. The U.S. government has traditionally shunned creating the kind of cooperative regulations that

are evident in Asian and European economies. Voluntary information sharing and regulatory flexibility are at the heart of Project XL and HCPs, yet both are anathema to traditional industry-regulator relations. For these programs to achieve their objectives, former regulatory adversaries must discard long-entrenched positions to take on new roles as negotiators, partners, and public facilitators in environmental management. John Kessler, director of the EPA's Emerging Sectors and Strategies Division, observed early in the program that due to the novelty of the Project XL concept, these were roles that both sides had to learn as they enacted them. Lingering suspicions and deep cultural rifts added to the challenge of reinventing company, government, and stakeholder relations (Jones, 1996). As one editorialist (Harris, 1996a) quipped,

Does anyone truly believe that any government bureaucracy—especially one so deeply suspicious of the regulated community, an agency that measures its worth by its annual tally of convictions of environmental miscreants—would actually be willing to bargain away its birthright? (p. 4)

The notion of giving up this form of control as well as the idea of “negotiating” environmental improvements may appear to some as contrary to what they associate with the proper purpose and role of the government.

The shifting role of industry as environmental strategist and policy entrepreneur. The concept of developing creative partnerships implies the use of new collaborative institutions to assist in reinventing regulation. More important, this new partnership requires that the regulated community adopt a new role of seeking out innovative ways to protect the environment that are complementary and even enhancing of their strategic and economic interests. The collaborative process offered by Project XL and HCPs are designed to encourage managerial strategic action by industry entrepreneurs in terms of both promoting private environmental innovation and private involvement in policy development. Programs such as Project XL and HCPs are attempts to promote environmental leadership in a way that merges a firm's economic and environmental interests. However, the command-and-control and adversarial form of environmental regulation has historically stymied a proactive approach to innovation within the private sector (Porter & van der Linde, 1995).

Beyond individual firm strategy, these programs are designed as incentives for the regulated community to shift from opposing environmental policy to actively taking part in its formation. There is tremendous risk in this shift given the uncertainties of the ultimate policy outcome. By participating in cooperative compliance programs, they become proactive entrepreneurs in leading institutional change (Aldrich & Fiol, 1994). Encouraging private industry leadership through this dual shift in roles is critical to providing legitimacy and encouraging dominant designs in environmental policy (Troast et al., in press). Environmental innovation, like all technological innovation, requires an intimate

understanding of the problem and potential solutions and therefore is best driven by general management not government management (Morone, 1993).

The shifting roles of new stakeholders in the regulatory process. As the roles of government and industry evolve with the shift to cooperative compliance regulation, so too will the roles of other stakeholders. Though the public, which includes environmentalists, community groups, and other interested parties, were not traditionally a direct party to the command-and-control process, they now have a significant and direct role in negotiated collaborative agreements between business and government. This “stakeholder effect” has a major influence on both HCPs and Project XL in that public comments clearly influence the actors in the negotiation (Noss et al., 1997; Steinzor, 1998). When government acts as arbiter of the rules, there is a natural alignment between the state and the public. This alignment is socially constructed and embedded in a long historical context. As the government becomes a collaborator with business, a natural shift occurs. Both companies and the government must become central facilitators in multiparty stakeholder processes and overcome the perceptions of bias that might be created through the engagement of particular stakeholders or in the dissemination of information (Spyke, 1999; U.S. Environmental Protection Agency, 1998a, 1998b).

But, in many cases, other stakeholder groups will likely perceive that they must function as protectors of the environment, perhaps in the role (actually or perceived to be) abdicated by the government. This creates a growing and powerful purpose for nonprofit conservation groups particularly in the context of ecosystem and watershed management projects (Breckenridge, 1999). The “public interest representatives” include local governments, academics, impacted business interests, as well as national and local environmental groups (Ayres & Braithwaite, 1992). This new role for previously tangential stakeholders will be unfamiliar and challenging to all involved.

Corporate officials may feel frustrated at dealing with what they perceive to be unrealistic expectations of citizen involvement in private operations. “People have misconstrued what the stakeholder process is all about,” one Intel manager commented and queried. “Citizens are going to make decisions . . . that are binding on Fortune 500 companies?” (Skrzycki, 1997). If newly powerful activists see their role as peripheral to the negotiation process, they may resort to disruptive rather than collaborative action.

Regulators must be cognizant of this unfamiliar position and effectively mediate both the disputes between citizen activists and companies seeking relief from the strict letter of the law (Geltman & Skrobback, 1998) and the proper form and forum for that dispute.

Public interest representatives must perceive that their participation [in Project XL] is solicited sincerely and not as political cover for industry negotiations with regulators. They must also be convinced that reinvention will, at the very least,

maintain environmental quality and possibly deliver performance superior to the status quo. (Steinzor, 1998, p. 201)

When they cannot, a new party to this process—third-party facilitators—must be introduced to the process to ease the tensions between the roles of interested party and process orchestrator (Blackman & Mazurek, 1999; U.S. Environmental Protection Agency, 1998a).

To be successful, collaborative regulation must create an effective means to engage stakeholders in the process of generating new and relevant knowledge. Although often identified as a strength of the Project XL program, the management of stakeholder involvement became a serious source of contention with critics from both industry and environmental groups ("Project XL streamlines," 1998). Whereas some respondents to EPA surveys lauded the "trust and confidence [built] between local community, industry, state, and the EPA" and the enhanced quality of agreements produced by this more "holistic approach," others complained about the time consumed by the protracted consultation processes and the companies' asymmetric control over processes to which other stakeholders reacted.

The perceived challenge to the preeminence of science. In the shift to cooperative compliance, another interest whose role is challenged is that of the scientific community and more important, the scientific data and conclusions they offer. Historically, environmental protection was characterized by such extreme abuses that curbs and controls dictated by clear scientific evidence provided a logical means to preventing equally clear environmental threats (such as spontaneous combustion on lakes and rivers) (Portney, 1998). The value of scientific assessment has assumed the level of pseudo-sacredness discussed earlier. But, the past 25 years has witnessed a less assured and more contentious debate over the best science for protecting the environment. Both Project XL and HCPs are designed to follow the "best available science," but the debate over what is the "best science" has often become politicized, seen as having been shaped by the professions who devise the frameworks, typologies, and guidelines (Scott & Backman, 1990) that constitute the collective knowledge.

Debates surrounding the science of climate change, alar, and dioxin all illustrate that we increasingly face the reality that environmental problems are more complex and scientific knowledge is more subjective and less certain than entrenched interests care to recognize (Jasanoff, 1990). Despite the varied opinions, science becomes the "carrier," a medium for exchange of knowledge, that serves to both restrict and enable the behavior of the actors in the negotiation (Scott, 1995). The success of collaborative forms of regulation must recognize that scientific opinion will become part of the currency of the negotiation. Protecting the real and perceived integrity of scientific analysis will pose a formidable barrier to cooperative compliance.

The perceived incompatibility of economic and environmental goals. Much of environment-competitiveness debate is premised on the fixed-pie view that the interests of industry and ecology are at odds. Economic and material growth is taken for granted as mutually incompatible with environmental concerns. At the core, the prevailing belief is that environmental protection must, by its very nature, reduce economic competitiveness (Palmer, Oates, & Portney, 1995; Walley & Whitehead, 1994). This worldview perpetuates the win-lose mentality behind environmental advances and restrains parties from seeking opportunities for mutual gain through cooperative rule making such as Project XL and HCPs. Porter and van der Linde (1995) argue that this notion of an inevitable struggle is the result of a static view of regulation. If one assumes that firms in a static system have made cost-minimizing choices, regulation clearly raises costs, but if success is measured in terms of continuous innovation that creates competitive advantage, a new paradigm emerges. When regulation promotes technological advantages that offset compliance costs, firms can gain comparative advantage through innovation offsets. This argument shifts the focus from the social benefits of environmental regulation to the profit-maximizing decisions of firms in managing private costs of compliance. But, unfortunately, win-lose perspectives of the economics-environment relationship are embedded and perpetuated by many institutions of society, including regulatory standards, educational curricula, engineering and operating protocols, and international regimes (Hoffman & Ventresca, 1999).

The challenge of organizational inertia within regulating agencies. One of the goals of reinventing regulation is the economic objective of reducing compliance costs for business, while creating efficiencies by streamlining the government bureaucracy. The tension of competing political ideals within diffuse, large bureaucratic forms contributes to limited and incremental change within the federal government (Kingdon, 1995; Lindholm, 1959). One of the goals of reinventing government is directed at "transforming organizational structures" by eliminating top-down bureaucracies that are seen as "rigid, hierarchical, and segmented" (National Performance Review, 1993a, 1993b). The restructuring goals include reducing the size of management control positions, increasing span of control, promoting interagency collaboration, and creating self-managing work teams. Although these goals would all appear to support collaborative forms of regulation, it must also be acknowledged that this shift involves rethinking what has been ingrained within the government bureaucracy over the past 30 years. Some may resist this learning process as contrary to their conception of the underlying purpose of the agency or as a threat to their own political interests, competencies, skills, or personal security.

The shift from command-and-control to cooperative regulation may be competence enhancing for some and competence destroying for others. Staff within

enforcement departments or specific media-based programs may resist the transfer of some of their responsibilities to other initiatives because the very act may minimize their own usefulness. In the face of such changes, self-preservation may override concerns for environmental or economic objectives in decision making. The result may be organizational confusion or battles for survival among rival departments. Anne Kelley, former special assistant to the director of the New England Region of the EPA, was responsible for reinvention efforts and Project XL. "I represented a tiny office that came begging for open-mindedness but, unfortunately, most in the agency locked arms against reinvention" (personal communication, August 17, 2000). Conversely, without a clear view of the ultimate objective of negotiated compliance, a shortage of available or capable managers may pose additional problems resulting in project delays, personnel changes, and shifting standards (Marcus et al., in press; Noss et al., 1997; Steinzor, 1998). In several Project XL negotiations, companies complained that EPA staff assigned to the project lacked the authority to make decisions or to speak for their agencies and that they commanded insufficient resources (e.g., travel budget) to support the project adequately. Inappropriate staff assignments and government team turnover produced frustrating delays from companies' perspectives (U.S. Environmental Protection Agency, 1998b).

In 1999, the U.S. GAO called attention to this organizational inertia, pointing out that the current regulatory system has

led to, and tends to reinforce, many of the existing practices and behaviors that EPA is seeking to change. . . . The agency faces several challenges, including helping its rank-and-file employees to understand and support changes to the current regulatory system and obtaining consensus among the agency's varied stakeholders on what these changes should be. (p. 27)

In analyzing Project XL specifically, another GAO report concluded that the most important obstacles to the program were (a) the difficulty of obtaining commitment from agency staff (the staff were accustomed to medium-by-medium approaches and reluctant to abandon them) and (b) the difficulty of obtaining universal endorsement from stakeholders. Because the EPA was concerned about litigation, it was disinclined to move forward unless it had complete stakeholder backing (U.S. General Accounting Office, 1997).

The need for certainty among landowners/corporations and the need for flexibility under changing scientific opinion. There is an inherent conflict within the form of negotiated compliance programs between the interests of market certainty and the interests of scientific advancement. Companies seek certainty in the market and regulatory environment so as to make long-term investment and market forecasts. Environmental advocates and regulating agencies seek flexibility in responding to newly emerging environmental threats as scientific analysis reveals them. Command-and-control regulations have established a known

and understood method for providing both. They dictate clear standards for compliance and an established process for changing those standards. Because Project XL and HCPs change both these considerations, corporations may prefer the devil they know to the devil they don't know. Negotiated policy development can degrade into a contest between how much certainty will be granted versus how much environmental protection will be extracted. The cooperative spirit of the program degenerates into another type of win-lose negotiation.

For example, Project XL suffered its first major setback in 1996 when 3M abandoned negotiations because it claimed the EPA had demanded guarantees so stringent as to provide the company with little or no margin of error ("3M withdraws from Project XL," 1996). The EPA was criticized for failing "to entrust 3M, a company with a proven record of exemplary environmental performance, to take on the responsibility and accountability of proving that Project XL will result in superior environmental performance" and for underweighting other issues such as economic benefits, administrative cost savings, and increased stakeholder engagement (Harris, 1996b, p. 1). In response, the EPA argued that if the facilities were to be granted the license for regulatory flexibility, they must provide a guaranteed level of SEP—the greater the economic benefit, the greater SEP required. The negotiations ultimately failed because each side could not agree on a definition of SEP and because 3M did not offer the EPA enough guaranteed SEP to justify the flexibility the company was seeking (Marcus et al., in press). At a time when the EPA most needed to build trust and confidence with its corporate partners, it was being accused of being completely out of touch with the competitive business realities (Harris, 1996b).

CONCLUSION

In this article, we have highlighted an important point about new forms of regulatory cooperation. Programs such as Project XL or HCPs represent more than just the implementation of a new rule change. These programs represent a shift in the values that underlie both how the process of regulation is to be employed and how the roles of the many parties involved will change. The values underlying these shifts may be at odds with the taken-for-granted values that have developed over the past 30 years. The roles of government, industry, science, and society at large, as well as the form of their interaction, will be altered and many will respond by resisting such change. This resistance is inevitable and must be expected until the process is legitimized. The past 30 years of regulatory history has developed forms of cognitive and social inertia that cannot be overlooked. We cannot expect this inertia to be broken down without persistent efforts to combat the cognitive and institutional barriers that underlie individual and societal sources of resistance. Identifying these barriers has been the objective of this article.

By exposing the sources of cognitive and institutional resistance, we begin to understand why programs such as Project XL and HCPs do not emerge as dominant forms and spread rapidly across the policy landscape. Although long-awaited and widely recognized as the path to the future, these types of negotiated solutions present fundamental challenges to the ways in which we as individuals think about environmental management problems and to the institutions our society has developed to resolve them. Fundamental change processes—which we argue Project XL and HCPs represent—require time and friction to break down and reconstruct value systems and taken-for-granted beliefs.

At the individual level, we have to change the way we think about problems to recognize potential blind spots in our own perspectives and to realize the potential for more efficient solutions. At the organizational and societal level, we have to overcome the stasis created by bureaucratic inertia and myopic risk aversion and boldly restructure the roles of actors in the policy arena. Agency regulators and company managers must shift from being rule enforcers and compliers (sometimes avoiders), respectively, to trusting collaborators in the development of innovative environmental policy solutions. Private as well as public-sector managers must be recognized for their potential to become the next generation of policy entrepreneurs. We must find a new, more engaged role for interested and affected parties in the development of these policy solutions, but one that balances the importance of information disclosure and public participation with the rights of proprietorship. We must push the bounds of existing scientific knowledge and traditional approaches to the study of environmental problems. Where necessary, existing standards must be broken down and adjusted to new metrics for success whose explicit objective is to maximize the economic and environmental values.

In looking to the future, we must adjust our metrics for determining the success or failure of these groundbreaking programs. The adoption of a dominant design follows a contagion pattern as depicted in Figure 6. At the early stages of a competing policy design such as Project XL or HCPs, acceptance rates are low. Few companies will be expected to participate as the benefits are unclear and the outcomes unknown. But, as acceptance grows, a threshold effect occurs in which adoption is rapid until dominance occurs. If this model is to be applied to the environmental regulatory context, then we propose that the efforts behind collaborative variants must strive to reach that threshold point.

An important factor in this effort is understanding the differences between organizations that adopt early in this process and those that adopt late, as depicted in Figure 7. Dominant designs are not known *ex ante*, but firms that attempt to promote them are willing to take the risks inherent in eras of ferment. They are not merely organizations that have positive environmental records. Such firms must be highly entrepreneurial, willing to learn by doing and thus actively shape technology and policy cycles (Tushman et al., 1997). They are outliers in the environmental arena, seeking to differentiate through innovation

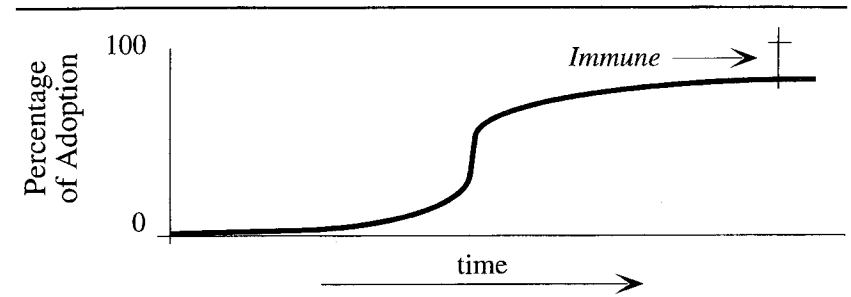


Figure 6: Contagion Model of Innovation Diffusion

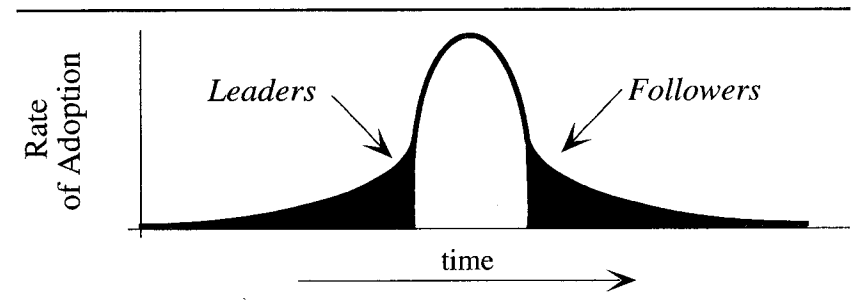


Figure 7: Organizations' Adoption Patterns of Innovation

and gain competitive advantage from opportunities in environmental strategies. Conversely, those that adopt at the threshold or after are more risk averse. They do not seek differentiation on environmental issues and prefer the predictability of traditional regulatory structures to the uncertainty of new programs. Targeting the proper type of participating firm is critical for minimizing failures and maximizing successes toward reaching the threshold point.

Overall, to gain ultimate acceptance of collaborative programs, regulatory officials must understand the types of value-based sources of inertia that will create resistance to change. They must identify the types of organizational outliers that seek to shape the institutional environment and adopt multiple internal perspectives (as enforcers and innovators) to manage the policy innovation process (Tushman et al., 1997). For these changes to be lasting, we must resolve the value conflicts that form these sources of resistance. We must develop the trust among government agents, company managers, and citizen activists and help them to move from being the principal parties engaged in adversarial conflict to the principal parties engaged in sustainable negotiated solutions.

REFERENCES

- 3M withdraws from Project XL. (1996). *Environment Manager*, 8, 10-11.
- Aldrich, H. E., & Fiol, C. M. (1994). Fools rush in? The institutional context of industry creation. *Academy of Management Review*, 19, 645-670.
- Anderson, P., & Tushman, M. (1990). Technological discontinuities and dominant designs: A cyclical model of technological change. *Administrative Science Quarterly*, 35, 604-633.
- Ayres, I., & Braithwaite, J. (1992). *Responsive regulation: Transcending the deregulation debate*. New York: Oxford University Press.
- Baden, J. (1995, October 25). The adverse consequences of the ESA. *The Seattle Times*, p. B5.
- Bazerman, M. H. (1983). Negotiator judgment: A critical look at the rationality assumption. *American Behavioral Scientist*, 27, 618-634.
- Bazerman, M. H. (2002). *Judgment in managerial decision making* (5th ed.). New York: John Wiley.
- Bazerman, M., & Hoffman, A. (in press). Applying the insights of Walton and McKersie to the environmental context. In T. Kochan & D. Lipsky (Eds.), *Negotiations and change*. Ithaca, NY: Cornell University Press.
- Bazerman, M. H., Moore, M. A., & Gillespie, J. J. (1999). The human mind as a barrier to wiser environmental agreements. *American Behavioral Scientist*, 42(8), 1254-1276.
- Blackman, A., & Mazurek, J. (1999). *The cost of developing site-specific environmental regulations: Evidence from EPA's Project XL*. Washington, DC: Resources for the Future.
- Breckenridge, L. (1999). Symposium: The role of the non-profits, watershed organizations, and the unorganized public in environmental decision-making. *Ecology Law Quarterly*, 25, 692.
- Cohn, J. P. (1998). Negotiating nature. *Government Executive*, 30(2), 50-53.
- Council of Economic Advisors. (1996). *Economic report of the president*. Washington, DC: Government Printing Office.
- Crismon, S. (1998). Pender County, North Carolina red-cockaded woodpecker habitat conservation plan and safe harbor. In *Improving integrated natural resource planning: Habitat conservation plans*. Knoxville, TN: National Center for Environmental Decision-Making Research.
- Davies, C., & Mazurek, J. (1997). *Regulating pollution: Does the U.S. system work?* Washington, DC: Resources for the Future.
- Easterbrook, G. (1995). *A moment on the earth*. New York: Viking.
- EPA offers innovative firms the chance to excel. (1995). *Environment Today*, 6, 1.
- Fiorino, D. (1999). Rethinking environmental regulation: Perspectives on law and governance. *Harvard Environmental Law Review*, 23(2), 441-469.
- Fraser, H., & Belew, E. (1996, March 15). Looking past the concept of Plum Creek's Project. *The Seattle Times*, p. B5.
- Geltman, E. G., & Skroback, A. E. (1998). Reinventing the EPA to conform with the new American environmentality. *Columbia Journal of Environmental Law*, 23, 1-56.
- Greenwood, R., & Hinings, C. (1996). Understanding radical organizational change: Bringing together the old and the new institutionalism. *Academy of Management Review*, 21(4), 1022-1054.
- Harris, P. (1996a). They just don't get it. *Environmental Management Today*, 7, 4.
- Harris, P. (1996b). Project XL begins to crumble as some firms say, "no thanks." *Environmental Management Today*, 7, 1.
- Hirsch, P. (1997). Sociology without social structure: Neo-institutional theory meets brave new world. *American Journal of Sociology*, 102(6), 1702-1723.
- Hoffman, A. J. (1997). *From heresy to dogma: An institutional history of corporate environmentalism*. San Francisco: New Lexington Press.
- Hoffman, A. J., Gillespie, J. J., Moore, D., Wade-Benzoni, K., Thompson, L., & Bazerman, M. H. (1999). A mixed-motive perspective on the economics versus environment debate. *American Behavioral Scientist*, 42(8), 1254-1276.
- Hoffman, A. J., & Ventresca, M. (1999). The institutional framing of policy debates: Economics versus the environment. *American Behavioral Scientist*, 42(8), 1368-1392.
- Jasanoff, S. (1990). *The fifth branch*. Cambridge, MA: Harvard University Press.
- Jones, D. R. (1996). Project XL okays its pilot partners. *Environmental Management Today*, 7, 1.
- Kingdon, J. W. (1995). *Agendas, alternatives and public policies*. New York: HarperCollins.
- Lindholm, C. (1959). The science of "muddling through." *Public Administration Review*, 19, 79-88.
- Lowry, W. R. (2000). Natural resource policies in the twenty-first century. In N. Vig & M. E. Kraft (Eds.), *Environmental policy: New directions for the twenty-first century* (pp. 303-325). Washington, DC: CQ Press.
- Marcus, A., Geffen, D., & Sexton, K. (in press). *The search for common ground: Overcoming barriers to cooperative environmental solutions*. Washington, DC: Resources for the Future Press.
- Messick, D. M., & Sentis, K. P. (1985). Estimating social and nonsocial utility functions from ordinal data. *European Journal of Social Psychology*, 15, 389-399.
- Morone, J. (1993). *Winning in high tech markets*. Cambridge, MA: Harvard Business School Press.
- National Performance Review. (1993a). *Improving regulatory systems*. Washington, DC: Author.
- National Performance Review. (1993b). *Transforming organizational structures*. Washington, DC: Author.
- National Performance Review. (2000). *Reinventing regulation pays off big* [Online]. Available: www.npr.gov/initiati/common/reinvreg.html
- Noss, R. F., O'Connell, M. A., & Murphy, D. D. (1997). *The science of conservation planning: Habitat conservation under the Endangered Species Act*. Washington, DC: Island Press.
- Palmer, K., Oates, W., & Portney, P. (1995). Tightening environmental standards: The benefit-cost or the no-cost paradigm? *Journal of Economic Perspectives*, 9(4), 119-132.
- Pandya, A., Rosenfeld, F., & Caffee, V. (1998, March 11). A strong Superfund law is crucial to make polluters clean up sites. *Asbury Park Press*, p. A13.
- Porter, M. E., & van der Linde, C. (1995). Toward a new competition of the environment—Competitiveness relationship. *Journal of Economic Perspectives*, 9(4), 9-118.
- Portney, P. (1998). Counting the cost. *Environment*, 40(2), 14-18.
- Powell, W., & DiMaggio, P. (Eds.). (1991). *The new institutionalism in organizational analysis*. Chicago: University of Chicago Press.
- Project XL streamlines. (1998). *Environment Manager*, 10, 5-7.
- Ring, P. S., & Van de Ven, A. H. (1994). Developmental processes of cooperative interorganizational relationships. *Academy of Management Journal*, 19(1), 90-118.
- Robertson, C. J., & Jett, T. H. (1999). Pro-environmental support: The environmental and industrial benefits of project XL. *Organizational Dynamics*, 28(2), 81-88.
- Ruckelshaus, W. (1996, November 15). *Trust in government: A prescription for restoration*. Paper presented as part of the Webb Lecture series at the meeting of the National Academy of Public Administration, Washington, DC.
- Sabel, C., Fung, A., & Karkkainen, B. (1999). Beyond backyard environmentalism: How communities are quietly refashioning environmental regulation. *Boston Review*, 24(5), 4-11.
- Schmitt, R. (1994, Summer). The AMOCO/EPA Yorktown experience and regulating the right thing. *Natural Resources and the Environment*, 51, 11-13.
- Scott, W. R. (1995). *Institutions and organizations*. London: Sage.
- Scott, W., & Backman, E. (1990). Institutional theory and the medical care sector. In S. Mick (Ed.), *Innovations in health care delivery: Insights for organizational theory* (pp. 20-52). San Francisco: Jossey-Bass.
- Skocpol, T. (1985). Bringing the state back in: Strategies of analysis in current research. In P. Evans, D. Rueschemeyer, & T. Skocpol (Eds.), *Bringing the state back in* (pp. 3-43). New York: Cambridge University Press.
- Skrzycki, C. (1997, January 24). Critics see a playground for polluters in EPA's XL plan. *The Washington Post*, p. D01.

- Spyke, N. P. (1999). Public participation in environmental decision making at the new millennium: Structuring new spheres of public influence. *Boston College Environmental Affairs Law Review*, 26(2), 263-313.
- Steinzor, R. I. (1998). Reinventing environmental regulation: The dangerous journey from command to self-control. *Harvard Environmental Law Review*, 22(1), 103-202.
- Tenbrunsel, A., Wade-Benzoni, K., Messick, D., & Bazerman, M. H. (1997). The dysfunctional effects of standards on environmental attitudes and choices. In M. H. Bazerman, D. M. Messick, A. E. Tenbrunsel, & K. Wade-Benzoni (Eds.), *Environment, ethics, and behavior: The psychology of environmental valuation and degradation* (pp. 105-121). San Francisco: New Lexington Press.
- Teubner, G. (1983). Substantive and reflexive elements in modern law. *Law and Society Review*, 17, 239-252.
- Thompson, L. (2001). *The mind and heart of the negotiator* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.
- Thompson, L., & Gonzalez, R. (1997). Environmental disputes: Competition for scarce resources and clashing of values. In M. H. Bazerman, D. M. Messick, A. E. Tenbrunsel, & K. Wade-Benzoni (Eds.), *Environment, ethics, and behavior: The psychology of environmental valuation and degradation* (pp. 75-104). San Francisco: New Lexington Press.
- Thompson, L., & Hastie, R. (1990). Social perception in negotiation. *Organizational Behavior and Human Decision Processes*, 47, 98-123.
- Thompson, L., & Hrebec, D. (1996). Lose-lose agreements in interdependent decision making. *Psychological Bulletin*, 120(3), 396-409.
- Troast, J., Hoffman, A., Riley, H., & Bazerman, M. (in press). Institutions as barriers and enablers to negotiated agreements: Institutional entrepreneurship and the Plum Creek habitat conservation plan. In A. Hoffman & M. Ventresca (Eds.), *Organizations, policy and the natural environment: Institutional and strategic perspectives*. Stanford, CA: Stanford University Press.
- Tushman, M. L., Anderson, P. C., & O'Reilly, C. (1997). Technology cycles, innovation streams, and ambidextrous organizations: Organizational renewal through innovation streams and strategic change. In M. L. Tushman & P. C. Anderson (Eds.), *Managing strategic innovation streams* (pp. 3-23). New York: Oxford University Press.
- U.S. Department of the Interior, U.S. Fish and Wildlife Service, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, and the National Marine Fisheries Service. (1996). *Habitat conservation planning and incidental take permit processing handbook*. Washington DC: U.S. Department of the Interior.
- U.S. Environmental Protection Agency. (1998a). *Evaluation of Project XL stakeholder processes*. Washington, DC: Author.
- U.S. Environmental Protection Agency. (1998b). *Project XL preliminary status report*. Washington, DC: Author.
- U.S. Environmental Protection Agency. (1999). *Project XL* [Online]. Available: www.epa.gov/projectxl
- U.S. General Accounting Office. (1997). *Environmental protection: Challenges facing EPA's efforts to reinvent environmental regulation* (GAO/RCED-97-155). Washington, DC: Government Printing Office.
- U.S. General Accounting Office. (1999). *Major management challenges and program risks: Environmental Protection Agency* (GAO/OCG-99-17). Washington, DC: Government Printing Office.
- Ventresca, M., & Washington, M. (1998). *Organizational fields: Bringing conflict back in* (DRRC Working Paper). Evanston, IL: Northwestern University.
- Wade-Benzoni, K., Tenbrunsel, A., & Bazerman, M. H. (1996). Egocentric interpretations of fairness of asymmetric, environmental social dilemmas: Explaining harvesting behavior and the role of communication. *Organizational Behavior and Human Decision Processes*, 67(2), 111-126.
- Walley, N., & Whitehead, B. (1994, May-June). It's not easy being green. *Harvard Business Review*, 46-51.
- Wasserman, S., & Galaskiewicz, J. (1994). *Advances in social network analysis*. Thousand Oaks, CA: Sage.
- Weidenbaum, M. (1997, winter). Regulatory process reform: From Ford to Clinton. *Regulation*, 1-7.
- Weingart, L., Thompson, L., Bazerman, M. H., & Carroll, J. S. (1990). Tactical behavior and negotiation outcomes. *International Journal of Conflict Management*, 1, 7-31.
- Westneat, D. (1996). Logging that will protect wildlife? *The Seattle Times*, p. B1.
- Zucker, L. (1983). Organizations as institutions. In S. Bacharach (Ed.), *Research in the sociology of organization* (pp. 1-47). Greenwich, CT: JAI.
- Zucker, L. (1986). Production of trust: Institutional sources of economic structure, 1840-1920. In *Research in Organizational Behavior* (Vol. 8, pp. 53-111). Greenwich, CT: JAI.