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Green Clubs: Collective Action and Voluntary Environmental Programs

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Abstract

Voluntary environmental programs (VEPs) are institutions that encourage participating actors to produce environmental public goods beyond the requirements of government law. Drawing on the club approach to the study of VEPs, we identify four collective action challenges facing VEPs. First, sponsoring actors must be motivated to invest resources to create a VEP despite incentives to free ride on the efforts of others. Second, VEPs need to be designed to offer firms sufficient excludable incentives to join them. Third, VEPs need monitoring and enforcement mechanisms to ensure that participants adhere to program obligations and do not free ride on the efforts of other participants. Fourth, VEPs and their sponsors need to motivate stakeholders to compensate firms for producing environmental public goods. The literature reveals considerable variability in how these challenges are addressed, suggesting that successful VEPs need to fit their institutional contexts.

INTRODUCTION

In her presidential address at the 1997 annual meeting of the American Political Science Association, Elinor Ostrom stated that “the theory of collective action is *the* central subject of political science” (Ostrom 1998, p. 1; emphasis in the original). Perhaps nowhere is the challenge of collective action more pressing than in the environmental arena, where misalignment between private and public benefits leads to pressing problems such as pollution, climate change, and lost biodiversity. This review outlines a collective action perspective to the study of voluntary environmental programs (VEPs), a category of policy instruments offering a nonmandatory or “private” approach to mitigating environmental problems.¹ As institutions, VEPs are made up of rules that require participants to produce environmental public goods beyond the requirements of applicable government laws. “Voluntary” here implies the absence of any state mandate or legal requirement that firms must join these programs. Participation is “voluntary” even if participants’ stakeholders employ legal means to persuade or otherwise induce participation. VEPs have been sponsored by trade associations (often in the form of industry self-regulation), nongovernmental organizations (NGOs), governments (including with bipartite and tripartite sponsorships), and international intergovernmental organizations (Coglianese & Nash 2001, Webb 2004, Darnall et al. 2010). To some, the growth of VEPs marks a shift in societal approaches to regulation (Teubner 1983, Fiorino 2006, Coglianese & Nash 2009).

During the Industrial Revolution, when pollutants from industrial processes became a public nuisance, laws such as the British Smoke Nuisance Abatement Act of 1853 and the Alkali Act of 1863 were enacted (Stradline & Thorsheim 1999). During the 1970s, governments began expanding their regulatory apparatus, which came to be labeled “command and control” regulations because they commanded firms to reduce pollution and controlled how firms would do so, often by specifying technologies and rules focused on reducing end-of-pipe emissions. These regulations produced dramatic improvements in environmental quality through the 1970s and 1980s, most notably in industrialized countries, where governments tended to have the capacity and the willingness to enforce environmental laws.

Command and control regulation began facing criticism during the Reagan-Thatcher deregulatory era of the 1980s. Critics charged that it imposed high costs on both the regulators and the regulatees while delivering diminishing returns in terms of pollution reduction. In the critics’ eyes, command and control was rigid, inflexible, and costly, and it created adversarial relationships between the regulators and the regulatees (Kagan 1991, Kollman & Prakash 2001). Interest groups representing labor and capital blamed environmental regulatory costs for the “industrial flight” from developed to developing countries where environmental regulations (or their enforcement) were weaker (Jaffe et al. 1995). The political clamor for regulatory reform (Eisner 2004) opened room for experiments with new policy approaches, including collaborative partnership, market-based policies such as cap and trade, mandatory information disclosure policies such as the Toxics Release Inventory, and VEPs (Ayers & Braithwaite 1992, Gunningham & Grabosky 1998, Lubell et al. 2002, Antweiler & Harrison 2003, Meidinger 2006, Weible 2008, Kraft et al. 2011).

VEPs have proven fertile ground for scholarly scrutiny, not only because of their popularity but because they offer analytic insights into the collective action challenges in the creation, design, diffusion, and efficacy of policy institutions (Vogel 2005). First introduced in Japan in

¹Scholars categorize VEPs in different ways. Borck & Coglianese (2009) suggest that VEPs include firms’ unilateral environmental commitments, bilateral agreements negotiated between governments and firms, and multi-stakeholder voluntary programs. Although our broad argument applies to all types of VEPs, we focus on multi-stakeholder initiatives, which tend to be most prominent and attract a large roster of firms.



the 1950s (Vries et al. 2012), VEPs rose to worldwide prominence in the 1990s. Indeed, in the past two decades, VEPs have achieved widespread diffusion across sectors and countries, emerging as important policy phenomena in their own right (Delmas & Montiel 2008, Ronit 2012). Consider the case of the International Organization for Standardization's ISO 14001, the most widely adopted VEP in the world, whose membership spans numerous sectors. As of 2010, ISO 14001 had 250,000 participating facilities spread across 155 countries (<http://www.iso.org>). Likewise, the Forest Stewardship Council VEP has certified more than 150 million hectares of forests spread across 80 countries (<http://www.fsc.org>). The chemical industry's Responsible Care VEP (<http://www.responsiblecare.americanchemistry.com>) is backed by national chemical industry associations in 50 countries, including most of the OECD (Conzelmann 2012). Importantly, beyond the environmental field, voluntary programs have achieved general prominence across several areas, such as corporate social responsibility, labor, fair trade, food supply, and accounting (Cutler et al. 1999, Mattli & Büthe 2003). Because voluntary programs are most widespread in the environmental area, a study of VEPs provides a solid analytic background to probe the broader phenomenon of voluntary, private, or social regulation.

The rich academic literature on VEPs offers some tantalizing early puzzles. Why have VEPs emerged in some sectors but not in others? What explains variations in their uptake among firms? Some VEPs appear to improve participants' environmental practices whereas others do not, and the same VEP that is effective in some jurisdictions may be less so in others. Under what conditions do VEPs improve compliance with public regulation? Do the environmental practices of VEP participants spill over to nonparticipants? Underlying each of these are deeper questions about solving collective action challenges in different governance contexts.

Over the past several years, we have been developing an institutionalist approach to the study of VEPs (Prakash & Potoski 2006a, Potoski & Prakash 2009). Drawing on the economic theory of clubs (Buchanan 1965, Cornes & Sandler 1996), our club approach sees voluntary programs as efforts to correct a failure in the market for environmental virtue (Vogel 2005) by mitigating information problems between firms and their stakeholders. We begin with the premise that producing environmental public goods requires nontrivial costs, which some firms would incur if they received stakeholder appreciation for doing so. Similarly, some stakeholders—the consumers, financial institutions, NGOs, and regulators who are interested in firms' sustainability practices—would like to shower appreciation on environmental stewards but do not have the information they need to differentiate the stewards from nonstewards (King 2007; Baron 2009, 2010). In this sense, the supply of environmental public goods is hampered, in part, by a market failure rooted in information problems between firms and their stakeholders.

An effective VEP mitigates the information problem by providing its participants a brand signal that facilitates the exchange of firms' environmental stewardship for stakeholders' appreciation. The brand signal communicates members' superior environmental credentials, allowing stakeholders to better discriminate among firms based on their environmental activities. In the club approach we have developed, a VEP's branding benefits have characteristics of a club good: they are excludable in the sense that only program participants can appropriate them and nonrival in the sense that stakeholders can bestow appreciation on multiple participants at the same time.

In this article, we expand on the club approach to focus on four core collective action challenges that VEPs need to address to be effective. The first challenge is sponsorship and program establishment. As the product of collective action, creating a VEP is expensive. Why do VEP sponsors invest resources to create a VEP when they could otherwise free ride on the efforts of others? Exploring this question can shed light on the emergence and nonemergence of VEPs.

The second collective action challenge is recruiting firms to join the VEP. Once established, a VEP needs to offer potential participants sufficient excludable incentives to offset the costs of



producing environmental public goods that its membership requires. As noted, voluntary programs offer members an excludable reputational benefit in exchange for their affiliation with the program. Stronger reputations can come from clear, rigorous, and verifiable program standards and from sponsorship of the VEP by credible organizations. However, stringent programs are also high-cost programs, which might attract a smaller roster of participants, all else equal. In part, the overall policy impact of any VEP reflects how successfully the tension between program stringency and roster size is resolved.

The third collective action challenge, shirking, occurs because firms might have incentive to join a VEP and then not adhere to its obligations. There are three perspectives on solving shirking problems.² Club theory, rooted in rational choice, emphasizes institutional features, such as monitoring and sanctioning mechanisms. A sociological perspective suggests that shirking can be curbed through communitarian pressures embedded in the norm of appropriateness that the VEP seeks to emphasize. The third perspective is that firms shirk because they do not have the capacities or information they need to meet their program obligations. This might be particularly true among small firms, which often lack managerial resources but join the program in response to pressure from customers in their supply chain. Effectively solving the shirking dilemma requires correctly identifying its cause.

The fourth collective action challenge, the stakeholder marketing challenge, pertains to the fact that even if VEP participants effectively produce environmental public goods, their stakeholders may still not reward them. In other words, stakeholders may shirk on their part of the implicit bargain with VEP participants. Thus, an effective VEP must develop a stakeholder constituency that is willing to compensate firms for their sustainability practices.

The remainder of this article reviews these collective action dilemmas and how they have been addressed in the VEP literature. In the next section, we briefly introduce the club approach and show how it illuminates collective action problems VEPs face. The subsequent four sections discuss the four key collective action challenges—emergence, recruitment, shirking, and stakeholder marketing—critical to the study of VEPs.

THE CLUB APPROACH TO THE STUDY OF VOLUNTARY ENVIRONMENTAL PROGRAMS

An important approach to studying social problems is to identify the characteristics of goods so that institutional mechanisms can be structured to best supply them. Two characteristics are of analytic importance: rivalry (whether multiple users can appropriate the product simultaneously; sometimes also called subtractability) and excludability (whether it is legally and technologically feasible to exclude some potential users). Based on these characteristics, four stylized categories of goods can be identified: public goods (nonrival and nonexcludable), private goods (rival and excludable), common pool resources (rival but nonexcludable), and club goods (nonrival but excludable).

Excludability helps markets supply goods because sellers are able to enforce property rights and prevent free riding by allowing only paying customers to appropriate the good. Both governments and markets supply excludable goods; examples include toll roads, bridges, movie theaters, golf courses, and even schools and universities. Club goods, which are both nonrival and excludable (Cornes & Sandler 1996, Sandler & Tschirhart 1997) can be provisioned through either a user

²There is an established literature exploring noncompliance with public law. Reasons for noncompliance include the following: actors are ignorant of the law (Brehm & Hamilton 1996), lack sufficient capacity or knowledge to comply with it (Scholz 1991, Winter & May 2001), or find it illegitimate (Levi 1988).



fee (as with a toll bridge) or a membership fee (as with a golf club) to defray the cost of supplying the club good. Buchanan's seminal article, "An Economic Theory of Clubs" (1965), is generally credited as the foundational piece in the development of club literature.

Our approach to VEPs builds on this vein of club theory.³ Unlike the Buchanan clubs, which are organized to produce club goods, the central purpose of a VEP club is for its participants to produce environmental public goods. In return, program participants appropriate the benefits of affiliation with the VEP brand, which have the characteristics of a club good. The benefits of VEP membership are excludable because only participants can use the VEP brand to communicate with their stakeholders and are nonrival because one member's use of the signal does not diminish the ability of other members to use it. Although VEPs might require some nominal participation fees, the typical membership costs in VEP clubs are not direct payments to club sponsors in return for accessing the club good. Rather, most of the "payments" consist in members' monetary and nonmonetary costs of adopting and adhering to the VEP's obligations.

Although firms can unilaterally try to boost their reputation with stakeholders by producing environmental public goods, club membership offers some advantages over unilateral efforts.⁴ From the stakeholders' perspective, a firm's unilateral declaration that it is producing environmental public goods may not be credible (King et al. 2005, Potoski & Prakash 2005a). Stakeholders may not be able to observe firms' environmental performance, and firms may renege on their environmental promises. As institutionalized systems, VEPs can enjoy a degree of credibility because their rules may be more difficult to change than an individual firm's environmental policies. Also, by participating in a VEP firms might get more reputational value for their efforts because of economies of scale and network externalities in the collective production of the VEP brand signal.

VEPs are rule systems, and two classes of rules bear particular analytic import for a program's efficacy: the stringency of the obligations imposed on participants (club standards) and the monitoring and enforcement mechanisms to ensure that participants adhere to those obligations ("swords"). Club standards impose various requirements, such as pollution reduction targets, disclosure requirements, products incorporating specific attributes, or adoption of management practices that lead to pollution reduction. Club standards indicate the types and levels of environmental public goods the VEP's members produce, and therefore should correlate with the level of stakeholder appreciation that club participants can expect to receive. More stringent club standards require members to produce more environmental public goods but may end up attracting fewer participants because many firms would not receive enough stakeholder rewards to justify their costs. Thus, there may be a tradeoff between standards' stringency and the size of the membership roster.

The size of a VEP's membership roster affects the value of the club brand because larger membership rosters can capture scale economies in brand reputation production (McGuire 1972), a dynamic similar to network effects (Bessen & Saloner 1988). Language groups can be thought of as voluntary clubs with network effects: the more people speak a given language, the higher are the benefits from learning it. Because having more participants helps advertise a voluntary club broadly among stakeholders, the value a club member derives from club participation increases with every additional firm joining it (van't Veld & Kotchen 2011). The returns on a large roster may be diminishing: a VEP with universal membership would do little to identify environmental leaders. Thus, VEP sponsors need to look for appropriately stringent standards as they think about the optimal club size (Ng 1973). Even exclusive clubs (such as the now defunct Environmental

³Scholars have formalized the club approach to the study of VEPs. Notable contributions include Baron (2010) and van't Veld & Kotchen (2011).

⁴On various modes of producing reputation, see Carpenter (2001) and Ahn et al. (2009).



Protection Agency's National Environment Performance Track) that consciously limit their roster to environmental leaders need to decide about the stringency of standards the "market" will bear. Some clubs, such as Leadership in Energy and Environment (LEED, <http://www.usgbc.org>), have incorporated a tiered system (Certified, Silver, Gold, and Platinum) to allow the potential participants with heterogeneous attributes to choose the benefits–costs equilibrium that is appropriate for their circumstances.

The second analytic dimension of VEPs pertains to "swords," or mechanisms to curb shirking. Some firms that join VEPs may choose not to adhere to the club standards while enjoying the benefits of the club brand reputation. If such shirking occurs with sufficient frequency, the reputation of the VEP is likely to suffer. In our previous work, we identified three types of swords: external auditing, information disclosure, and sanctioning (Prakash & Potoski 2006a). As with stringency of club standards, there is not a single "right" collection of swords applicable across all VEPs. Monitoring and enforcement are expensive, and VEPs must find the appropriate balance given the nature of their target population of participants as well as the stakeholder constituency they seek to serve.

So far, we have discussed how club standards and club swords influence a VEP's reputation among firms' stakeholders. But program sponsors may be able to opportunistically change these features in ways that disadvantage the participants. The potential for such opportunism may deter firms from becoming participants. In such a dynamic setting, VEP sponsors need to credibly commit (North 1993) that they will not opportunistically change their program's design, perhaps by creating mechanisms that increase their political costs of changing program design features. As Ostrom (1990) suggested, institutionalist scholars need to study rules on the ground (operational choice rules) as well as the rules to make rules (collective choice rules).

Two "credible commitment" challenges (North 1993), in particular, are important: one for firms' stakeholders and the other for the VEP's target participants. The credible commitment problem for firms' stakeholders is that, after gaining a reputation for stringent standards, VEP sponsors may then surreptitiously dilute them—capitalizing on reputations' sticky nature (Weigel & Camerer 1988). Stakeholders might be particularly suspicious of industry association VEPs in this regard. The credible commitment problem faced by potential participants is that the VEP may tighten its standards after firms have joined, opportunistically exploiting the fact that exiting the program is costly. Club membership can require investments in infrastructure, technology, or competency assets that are specific to the VEP and lose value if switched to alternative uses (Williamson 1985). Potential retribution from stakeholders may also raise firms' VEP exit costs. Firms may fear that VEP sponsors, particularly if they are NGOs, will opportunistically exploit high exit costs by raising the program's club standards.

VEP sponsors might seek to address credible commitment issues in three ways. First, VEP sponsors can tie their own hands by granting external stakeholders—including participating firms and NGOs—authority in their rule-making processes. The industry-sponsored Sustainable Forestry Initiative (SFI) has an External Review Board made up of 18 independent experts representing a range of interests and expertise (<http://www.sfi-program.org>). Second, VEP sponsors can establish supermajority voting rules for changing club rules. The International Organization for Standardization (ISO) requires that new standards and changes in existing standards be approved by two-thirds of the members that participated in the standards development process and by three-fourths of all voting ISO members (<http://www.iso.org>). Third, sponsors can submit their VEP itself to an external certification standard. The International Social and Environmental Accreditation and Labeling (ISEAL) Alliance, an international NGO made up of international standards-setting organizations, offers such services: a voluntary program to certify other VEPs (<http://www.iscalalliance.org>).



Along with the club perspective, there are two other notable theoretical approaches to VEPs and their role in public policy: the sociological perspective and the preemption perspective. The sociological perspective views VEPs through the lens of communitarian regulation (Rees 1997), where self-regulatory efforts via VEPs reflect a new era in which actors seek to take more control over their actions. It is communitarian because such regulatory initiatives arise in the context of an organizational field (DiMaggio & Powell 1983), such as a sector or industry, where actors share common norms and are able to socialize one another in the norm of appropriate behavior. For the communitarians, VEPs are embedded in sociological and professional networks that disseminate information on best practices. There are information asymmetries among firms about best practices, instead of between firms and their stakeholders about environmental stewardship. To discourage shirking, this perspective does not emphasize monitoring and sanctioning but instead relies on the power of norms and socialization. A good example of the learning network approach can be found in the United Nations' Global Compact program, which has an important environmental dimension (Berliner & Prakash 2012). Global Compact seeks to create a learning network to socialize and teach firms about corporate responsibility (Lim & Tsutsui 2012). Ruggie & Kell (1999, p. 5) emphasize that the Global Compact is "meant to serve as a framework of reference and dialogue to stimulate best practices and to bring about convergence in corporate practices around universally shared values."

The preemption perspective suggests that VEPs are not necessarily tools for addressing environmental problems but instead are strategic devices employed by firms to preempt governmental regulations (Maxwell et al. 2000, Manzini & Mariotti 2003). In this perspective, complaints about regulatory rigidity and inflexibility stem from business groups' efforts to dilute environmental regulations. VEPs, particularly those established by business associations, are efforts to demonstrate that firms can self-regulate and therefore should not be subjected to new regulations. VEPs dampen the demand for new regulation because concerned stakeholders might be led to believe that environmental problems are being addressed through alternative means. VEPs established by governments may fall into this category, as was evidenced when President George W. Bush's administration established voluntary global warming programs in place of mandatory government regulations.

Both the sociological and preemption perspectives offer important insights. We agree with the sociological perspective that some VEPs have been launched to solve common issues facing firms in a given industry, with professional networks playing an important role in disseminating best practices. Whether the norm of appropriateness is sufficient to solve shirking issues is an empirical question, as we discuss below. We also recognize that the preemption story is plausible. Several VEPs can be aptly described as "greenwashes" because they impose no real obligations on their participants and yet convey an impression of environmental stewardship. However, preemption does not explain why NGOs, which are often critical of firms (Lenox & Easley 2008), still establish their own VEPs, as has occurred in several sectors including the forestry and fishing sectors.

In our perspective, actors establish VEPs for many reasons. Whatever their founders' motives, what should matter eventually is whether these programs are effective: that is, whether they change firms' environmental behaviors in desirable ways. A program might be established to preempt public regulation but over time evolve into a more serious effort to address environmental problems. We need a robust theory that helps scholars and practitioners to distinguish between effective VEPs and greenwashes. The club perspective is one attempt at such a theory. As a further step in this direction, we examine how the club approach leads us to identify four critical collective action challenges that VEPs must solve in order to be effective. We call these the emergence and sponsorship challenge, the recruitment challenge, the efficacy challenge, and the stakeholder marketing challenge.



THE EMERGENCE AND SPONSORSHIP CHALLENGE

VEPs emerge where stakeholders see governments and markets failing to deliver the type, quality, and levels of environmental public goods they desire. Government policy tends toward one-size-fits-all approaches and is therefore ill-matched to stakeholders' heterogeneous demand. Importantly, the costs of altering government policy can be substantial, particularly in eras of partisan gridlock (Klyza & Sousa 2008). Market failure creates a void because information asymmetries about firms' environmental policies prevent firms and their stakeholders from consummating a win-win exchange of environmental stewardship for stakeholder goodwill.

Clubs can be viewed as a response to address unfulfilled stakeholder demand for environmental protection and firms' expectation for rewards for their stewardship investments. Buchanan clubs are typically established by economic entrepreneurs pursuing profits. Think of firms that build and operate golf courses, movie theaters, and even bridges and toll roads. The motivation for establishing a VEP is less direct. Below we examine the incentives and motivations for the three categories of actors sponsoring VEPs: trade associations, NGOs, and governments.

Many industry associations have sponsored VEPs. Examples include the chemical industry's Responsible Care program (Prakash 2000b), the forestry industry's Sustainable Forestry Initiative (SFI) (Cashore et al. 2004), the ski industry's Sustainable Slopes program (Rivera & deLeon 2004), or the metal-finishing industry's Strategic Goals Program (Brouhle et al. 2009). Industry associations are in the business of supplying collective goods to their members, such as lobbying, publicity, and so on, for which their efforts are supported financially by members' fees. An industry-sponsored VEP that preempts government regulations provides a form of collective good for its members (Maxwell et al. 2000, Manzini & Mariotti 2003). These VEPs can also protect or even enhance the industry's reputation, which is distinct from the reputation of individual firms and their products (Barnett & King 2008). Pollution problems in one firm can potentially create negative reputational externalities for other firms in the industry. Industry-sponsored VEPs such as Responsible Care require participants to take precautions against the environmental accidents and mishaps that would damage the industry's public standing. Some industry VEPs strive for universal membership because firms in an industry cannot be excluded from enjoying the benefits of a positive industry reputation. Anticipating free riding, some industry associations even mandate VEP participation for their members and encourage them to diffuse it through their supply chain. The American Chemistry Council (ACC) has opened Responsible Care participation to firms outside the chemical industry. Although these associate or affiliate members are not obligated to adopt all the Responsible Care standards, by partially incorporating these firms, the ACC has sought to improve the visibility of its VEP while bringing these firms' environmental practices closer to the Responsible Care ideal (<http://www.americanchemistry.com>).

Homogeneity among association members facilitates the supply of VEPs, consistent with the broader collective action literature (Dolsak & Ostrom 2003). Indeed, when firms in given industry show variation in size, smaller firms are often wary that a VEP would impose obligations that are more costly for them to fulfill. However, actor heterogeneity might facilitate collective action as well because firms might benefit asymmetrically from affiliating with an industry VEP brand. Large or more profitable firms might benefit more because they are more vulnerable to the negative reputational externalities generated by others in the industry. Firms in a "privileged group" (Olson 1965) that disproportionately benefit from a shared reputation (or are disproportionately hurt by its degradation) are likely to take the lead in establishing an industry VEP club. Indeed, this is the story of Responsible Care in the chemical industry (Prakash 2000b) and SFI in the forestry industry (Cashore et al. 2004).



Many NGOs have sponsored VEPs, often when they (or their supporters) see government regulations lacking the scope or stringency they desire. Given the competitive field in which activist NGOs function, sponsoring a VEP can arguably be a strategy to differentiate themselves from other NGOs that eye the same members or donors (Prakash & Gugerty 2010). Establishing a VEP is not cost free, so better-resourced and more visible NGOs are more likely to be VEP entrepreneurs. Other VEPs are sponsored by technical NGOs, such as ISO 14001 (Mattli & Büthe 2003).

The International Organization for Standardization (ISO) develops standards to facilitate global trade via technical standards. Although technical standardization might reduce transaction costs that impede trade, it does not address the political concern that trade can lead to environmental degradation through regulatory races to the bottom. Political debates on the relationship between trade and the environment create opportunities for protectionists to clothe themselves in environmentalists' garb and propose trade restrictions to protect inefficient domestic industries. Sensing the political perils to free trade due to mounting concerns about the environment, the ISO decided to extend its certification expertise in a new direction. The ISO launched its ISO 14001 VEP in 1995. ISO 14001 benefits firms by reducing transaction costs stemming from cross-national variations in government regulations (Prakash & Potoski 2006b).

Governments have been in the forefront of establishing VEPs, which might seem a bit odd because governments hold coercive authority that would seem to obviate the need for investing in voluntary mechanisms (Coglianese & Nash 2009, Fiorino 2009). But for governments, as with industry associations and NGOs, scholars note that VEPs can be a low-cost way to provide environmental public goods. Developing, implementing, and enforcing government regulations have become increasingly complex and costly, and in some jurisdictions have placed government, businesses, and NGOs in an adversarial regulatory posture (Kagan 1991, Kollman & Prakash 2001). VEPs allow governments to sidestep the high-transaction-cost regulatory venues while fostering more flexible and cooperative relations among government, firms, and NGOs (Potoski & Prakash 2004).

Scholars have examined how and why the US Environmental Protection Agency (EPA) and several US state governments have created VEPs to address a range of environmental challenges, from the politically charged context of global climate change to more run-of-the-mill issues such as home appliance energy efficiency (Darnall et al. 2010, Coglianese & Nash 2009, Fiorino 2009). The EPA's attention to VEPs has frustrated some environmental groups, who view such programs as an alibi for regulatory and legislative inactivity (Steinzor 1998). Indeed, one does not find regulators sponsoring VEPs to the same level in other countries. Dutch regulators, for example, instead seek to individually negotiate business-government covenants, a policy that would face enormous difficulties in the United States, particularly if the government put regulatory relief on the negotiation table (Coglianese & Nash 2009). Rather than sponsoring VEPs, Chinese government agencies have played an important role in persuading firms to join global VEPs such as ISO 14001 (Fryxell et al. 2004). However, akin to industry-sponsored VEPs, government-sponsored VEPs can sometimes play a preemptive role, as evidenced during the George W. Bush administration, when the federal government established voluntary programs to combat global climate change instead of new mandatory ones.

Many VEPs are founded by coalitions among business, government, and NGO actors (Fransen 2012). The Roundtable on Sustainable Palm Oil (RSPO) VEP has been established by the joint efforts of actors including the World Wildlife Fund, Golden Hope, Malaysian Palm Oil Association, Sainsbury's, and Unilever (<http://www.rspo.org>). This VEP outlines generic standards that can be adapted to specific countries through "national interpretations." Interestingly, Girl Scouts of the USA (and its licensed bakers) is also a RSPO member, as it proudly advertises



(<http://www.girlscouts.org>). This has generated some controversy because RSPO members need not be RSPO certified.

Another collaborative effort is the Marine Stewardship Council (MSC, <http://www.msc.org>). This VEP is cosponsored by the World Wildlife Federation and Unilever, one of the world's largest purchasers of frozen fish. The MSC promotes sustainable fishing practices by certifying fisheries for the sustainability of their management practices (Gulbrandsen 2009). Interestingly, in this case some governments did not approve of a VEP in an area where they wanted to exercise regulatory power. The Nordic governments, in particular, have resisted the MSC, with the Swedish government pushing KRAV, a Swedish organic labeling organization, to develop a competing fishery VEP.

In several issue areas, there are multiple, sometimes competing VEPs, and sponsors may tout the virtues of their “product” while disparaging their competition. Forestry, an area where NGOs and businesses have sponsored competing VEPs, provides an interesting illustration (Overdevest 2010). NGOs such as Rainforest Alliance and Greenpeace, seeing regulatory deficits in forestry protection, sponsored a VEP called the Forest Stewardship Council (FSC) that requires participants to adopt a range of sustainable forestry (and social) practices (Cashore et al. 2004). In response, industry groups have developed their own country-specific VEPs, such as the American Forest and Paper Association's Sustainable Forestry Initiative (SFI). NGOs have been vociferous in condemning the SFI. The industry association has responded by strengthening the stringency of SFI's club standards, but the NGOs remain unsatisfied and their assault on the SFI continues. Thus, the opportunities to create VEPs do not necessarily improve the adversarial relationship between firms and NGOs.

THE RECRUITMENT CHALLENGE

Protecting the environment has an opportunity cost. If firms are to join a VEP, the program must offer some benefits to offset that cost. These benefits depend on the willingness and ability of firms' stakeholders to compensate them. Some stakeholders may financially reward firms, such as when a firm is able to charge a price premium for its VEP-certified goods. Hainmueller & Hiscox (2012), for example, find that female consumers are more likely to buy clothes when provided information that they were produced within a program to reduce water pollution. The pollution information had no effect on males, nor on consumers buying in outlet stores, which suggests some variation across consumers in their willingness to pay for environmental stewardship through clothing purchases.

When VEPs are sponsored by trade or industry associations, the firms' decisions about participation tend to be endogenous to their calculus in supporting the program's creation in the first place. This is because trade and industry associations tend to establish VEPs with the active input of their members, the target group for VEP participation. In some cases, the trade associations mandate their members to join their VEP, as in the cases of Sustainable Forestry Initiative of the American Paper and Forestry Association, the Responsible Care initiative of the American Chemistry Council, and the US National Ski Areas Association's Sustainable Slopes Program. The dynamics of VEP diffusion are different for VEPs sponsored by other actors, such as NGOs and governments, because different factors shape firms' benefit–cost calculus of program membership, a widely discussed topic in this literature.

When sponsoring a VEP, activist NGOs typically tend to employ a range of strategies to “persuade” firms to participate (Sasser et al. 2006, Lenox & Eesley 2008). These range from formally approaching the company to active naming and shaming campaigns. In the case of technical NGOs such as the ISO, the sponsor can exploit its reputation to attract firms. In some cases, commercial



actors such as consultants play a key role in publicizing the benefits of participating in the VEP.

Recruitment strategies for government-sponsored VEPs show considerable variation. For example, US EPA Administrator Reilly wrote to target firms inviting them to join the EPA's 33/50 program (Arora & Cason 1995). Furthermore, although the EPA promised no preferential treatment for participants in 33/50, Innes & Sam (2008) find that inspection rates pre and post programs for firms not participating in 33/50 rose by 8%, whereas inspection rates for program participants fell by 6.6%. In other VEPs such as Energy Star, the EPA sought the active input of firms in the process of developing the program, thereby creating a stake for them to participate in it. Indeed, the types of benefits offered for recruitment by different levels of governments may differ. Hsueh & Prakash (forthcoming) find that VEPs sponsored by the federal government tend to rely more on intangible reputation benefits, whereas VEPs sponsored by state regulators tend to offer more concrete and monetizable benefits.

In general, governments can be powerful stakeholders with considerable sway over how firms produce environmental public goods. Governments can enforce environmental regulations in ways that reward firms for joining VEPs, perhaps even non-government-sponsored VEPs. A government may interpret a firm's membership in ISO 14001 as evidence that it is trying to comply with government regulation (Potoski & Prakash 2004); the government might treat more leniently violations by ISO 14001-certified firms, perhaps even reducing or eliminating fines. The propensity for governments to use VEPs for such regulatory flexibility depends on the country's regulatory systems and compliance culture. In the European Union, relief from government regulations was an important incentive for firms to join the European Eco-Management and Audit Scheme (EMAS) (Glachant et al. 2002). In the United States, many government agencies, including the EPA, are legally forbidden to use VEP participation to grant regulatory relief (Coglianese & Nash 2009). In less developed countries, where regulations and their enforcement are less strong, regulatory relief may be too weak an incentive to induce firms to join a VEP. Indeed, in these countries, overseas customers may provide the necessary incentives for firms to join a VEP.

For firms, the value of signaling environmental performance via VEP membership increases when they lack other means for communicating the same message (Berliner & Prakash forthcoming). For example, in developing countries, which are often labeled as pollution havens, firms are less likely to comply with government regulation. If key stakeholders located in overseas markets demand greater environmental stewardship, firms in developing countries will have an incentive to join a VEP (Börzel & Risse 2010). Examining such trade effects in the context of ISO 14001, Prakash & Potoski (2006b) find that high levels of ISO 14001 adoption in importing countries encourage firms in exporting countries to join the same VEP, a phenomenon analogous to the California Effect (Vogel 1995, Perkins & Neumayer 2012). The US auto industry requires first- and second-tier suppliers, many of which are located abroad, to adopt ISO 14001.

Echoing these international supply chain effects are findings that even within a country, ISO 14001-certified firms encourage suppliers to adopt ISO 14001 (Christmann & Taylor 2001). Multinationals' subsidiaries can likewise serve as instruments for diffusing VEP practices from host to home countries. If much of foreign direct investment (FDI) comes from home countries where VEPs are strongly entrenched, multinationals may diffuse VEPs in their host country supply chains. Arimura et al. (2011) find that ISO 14001-certified facilities require more progressive environmental practices from their suppliers. Prakash & Potoski (2007) find support for the country-of-origin argument in that inward FDI stocks are associated with higher levels of ISO 14001 adoption in host countries only when FDI originates from home countries that themselves have high levels of ISO 14001 adoption. VEPs can be a mechanism for importing global standards into developing countries (Perez-Alerman 2012).



Firm-level attributes also play an important role in firms' capacity and decisions about VEP participation. Scholars typically find that large firms (as measured by sales, assets, and number of employees) are more likely to join VEPs (Arora & Cason 1995), as are firms located in rich neighborhoods (a proxy for citizen demand for stewardship), firms supplying goods to the final consumer, firms with foreign ownership, and firms with higher levels of emissions (Khanna & Damon 1999, Potoski & Prakash 2005a).

SHIRKING AND THE EFFICACY CHALLENGE

An important insight offered by the club perspective is that there is no single blueprint for designing effective VEPs. The success of a VEP depends on the extent to which its institutional features match its context. There is some evidence that VEPs requiring their participants to adopt more extensive, specific, and demanding environmental management systems should show higher levels of environmental improvements (Anton et al. 2004, Darnall & Kim 2012). However, although stringent club standards might help a VEP escape NGOs' criticism, such VEPs might nevertheless be considered failures if they fail to attract enough participants, or if they attract only high performers for whom participation does not improve environmental performance. Similarly, a VEP with lax standards may attract a sizeable roster but without meaningfully improving their environmental practices or outcomes.

VEPs' efficacy also depends on what types of firms join them. Although some VEPs attract environmental leaders and others attract laggards (Lenox & Nash 2003), by some standards laggards may make for a more effective VEP if their participation induces them to produce more environmental goods. In consonance with the sorting argument (Spence 1973), credible VEPs are likely to be populated disproportionately by firms that adopted beyond-compliance policies even prior to joining VEPs. Indeed, this may be viewed as a first-order benefit that many VEPs, especially some government-sponsored VEPs, seek to generate (Fiorino 2009). VEPs' sorting function can be assessed fairly directly by simply comparing the environmental performance of VEP members and nonmembers.

A more stringent criterion to assess VEP efficacy is to examine whether participation leads firms to produce environmental public goods beyond what they would otherwise produce. Though more appealing from a policy perspective, this criterion is more analytically challenging because identifying the counterfactual—what participants would have done in the absence of the program—is difficult to establish in nonexperimental research settings. For example, some unobserved factors may induce firms to both join the VEP and improve their environmental performance.

Scholarly evaluations of VEPs' efficacy have usually been focused on a single program within a country. Cross-national and cross-program analyses are rare (exceptions include Lenox & Nash 2003, Darnall & Carmin 2005, Delmas & Toffel 2008, Henriques et al. forthcoming). Research has shown VEPs having successes and failures in both developed and developing countries. One of the most studied is ISO 14001, the most widely adopted VEP in the world. There is some evidence that ISO 14001 participation improves facilities' environmental performance (albeit modestly) in both developed and developing countries, with evidence coming from the United States (Potoski & Prakash 2005a), Japan (Arimura et al. 2008, Welch et al. 2002), Turkey (Turk 2009), Israel (Link & Nveh 2006), and India (Padma et al. 2008). ISO 14001 also seems to improve participants' regulatory compliance, again with evidence from both developed countries such as the United States (Potoski & Prakash 2005b) and developing countries such as Mexico (Dasgupta et al. 2000). Meanwhile, developed countries have produced some notable failures where VEP participation has had no discernible impact on environmental performance, such as Responsible Care (King & Lenox 2000) and Sustainable Slopes (Rivera & deLeon 2004). In the developing

world, Certification for Sustainable Tourism, a VEP established by the Costa Rican government, improved the environmental performance of Costa Rica's hotel and tourism industry (Rivera 2010). The Green Rating Project in India significantly improved environmental performance among the country's largest and dirtiest pulp and paper mills, though not its cleanest ones (Powers et al. 2008).

The forestry industry has had a rich experience with VEPs, attracting considerable scholarly attention (Auld et al. 2008). Unlike ISO 14001, for which compliance and pollution emissions serve as convenient evaluative yardsticks, FSC was, according to its bylaws, formed to "promote environmentally appropriate, socially beneficial, and economically viable management of the world's forests" (Auld et al. 2008, p. 190). This has created a system of multiple tradeoffs, with FSC standards and implementation becoming variable across countries. In the United States, FSC has focused on management, monitoring, and ecological practices, whereas Sweden's focus has been on forestry's ecological and social dimensions. In contrast, developing-world FSC implementation has focused more on labor and community relations.

THE STAKEHOLDER MARKETING CHALLENGE

In our discussion thus far we have taken for granted that stakeholders will reward firms for producing environmental public goods via their VEP membership. But what if stakeholders shirk on their implicit bargain with VEP participants, or are ignorant about the environmental public goods produced by VEP participants? There are three key reasons why stakeholders' rewards for VEP members may not be automatically forthcoming. First, stakeholders may have asymmetrical responses to VEP membership and nonmembership. Second, even if stakeholders are able to assess VEPs' efficacy through factors such as their institutional design and the credibility of their sponsors, VEPs may still face challenges in convincing stakeholders about their quality. Third, even if VEPs solve their credibility problems, stakeholders may withhold their rewards while looking to free ride on other stakeholders' rewards.

Asymmetrical Responses

Stakeholder response to firms' VEP participation may not be symmetrical in that they may penalize nonparticipation without rewarding participation. A theoretical rationale for such asymmetry stems from a branch of organizational theory that distinguishes between "motivating" factors, which improve employee performance, and "hygiene" factors, which prevent their dissatisfaction (Herzberg 1966). Firms might need to assess whether their stakeholders view VEP participation as a motivating factor (their participation induces stakeholders to offer rewards) or a hygiene factor (the absence of VEP membership leads to punishment but membership does not lead to rewards). For an example of how this asymmetry could play out, consider the chemical industry. Investors may not reward firms for joining a VEP but could still penalize them for not participating, especially if other firms in their industry have joined it. In this way, VEP membership becomes a type of regulatory cost that firms must bear, becoming part of their "social license to operate" (Gunningham et al. 2003). Although absence of punishment could be viewed as a reward for VEP participation, in terms of dynamics within firms, managers may find it difficult to justify VEP participation along these lines (Prakash 2000a).

Credibility with Stakeholders

Stakeholders tend to be boundedly rational with limited information about most VEPs, so they may not be able to discern the environmental stewardship each VEP induces. Stakeholders will be more likely to translate their environmental preferences into concrete action if they can

access and easily interpret information about improvements in VEP participants' environmental performance. To this end, VEP club standards can stipulate measurable, monitored, and easily understood performance indicators, and make this information available to stakeholders in easily understood formats. VEP sponsors can also encourage stakeholder action by providing them private benefits for rewarding participating firms. For example, investors might obtain private benefits if sponsoring actors can provide evidence that VEP membership lowers risk of environmental accidents (Jacobs et al. 2010). Similarly, sponsoring actors can engage regulators to demonstrate the value of VEP membership for regulatory compliance.

Nevertheless, stakeholders may remain skeptical of VEPs because, after gaining a reputation for strong environmental standards, VEP sponsors may then surreptitiously dilute these standards—capitalizing on reputations' sticky nature (Weigelt & Camerer 1988). Anticipating this possibility, stakeholders may withhold the benefits from members until they are confident that sponsors are committed to maintaining the standards' stringency. As we discussed above in regard to VEPs' credible commitment challenge, VEPs can adopt a variety of institutional rules, such as supermajority voting rules or granting stakeholders authority over rule changes to address their concerns about opportunistic dilution in club obligations.

Low entry barriers for establishing VEPs create an ecosystem with a diverse population of programs. Several arrangements have arisen to counter the considerable institutional diversity among VEPs and the information deficits stakeholders face in assessing their quality. Since 1992, the Federal Trade Commission has issued guidelines for firms' environmental claims (www.ftc.gov/opa/2010/10/greenguide.shtm). In a market-based solution, several websites identify false environmental claims or "greenwashing" among VEPs. For example, the "Greenwashing Index" (www.greenwashingindex.com) allows stakeholders to assess the credibility of environmental claims based on truthfulness of words and visuals, specificity of claims, provability of claims, and the comprehensiveness of information disclosures. In addition, supraclubs have emerged to address the issue of VEPs' credibility. An interesting example is the International Social and Environmental Accreditation and Labeling (ISEAL) Alliance. As mentioned above, ISEAL is an international NGO made up of international standards-setting organizations. In 2004, it launched the Code of Good Practice for Social and Environmental Standard Setting, a set of program standards to guide the development, implementation, and oversight of voluntary social and environmental clubs. The Code's standards specify processes for developing a program's standards, such as extensive stakeholder participation, and procedures for handling disputes. The Code's monitoring and enforcement mechanisms are being refined: there is currently a peer review procedure in place, and ISEAL is in the process of developing tools and processes to assess compliance. ISEAL's goals are to help sponsors develop their clubs by providing best-practices benchmarks, and to provide governments, NGOs, citizens, and other stakeholders a way to evaluate the quality of different voluntary clubs.

Stakeholder Free Riding

Even if stakeholders find VEPs' environmental claims to be credible, they may still be reluctant to reward VEP members. Stakeholders have free riding incentive, and there are discrepancies between stakeholders' claimed attitudes and their actual behaviors (Galarraga et al. 2011). Although polls suggest that citizens are concerned about environmental issues, favor stronger regulation,⁵ and

⁵A 2012 Gallup poll suggests that 70% of respondents favor "Setting higher emissions and pollution standards for business and industry," and 65% of respondents favor "Imposing mandatory controls on carbon dioxide emissions and other greenhouse gases" (see <http://www.pollingreport.com/enviro.htm>).



are willing to reward firms that adopt environmentally progressive policies,⁶ survey opinions do not always translate into actions. Consumers as stakeholders face collective action challenges. If VEP participation generates benefits with public goods characteristics, some stakeholders may have incentives to free ride on the efforts of others who are expending resources to reward VEP participants. Also, survey responses might reflect social pressure on stakeholders to state “green” preferences. Consequently, notwithstanding the claims about concern for the natural environment, mass consumer markets for green products in most categories have yet to develop. Green products are beginning to gain a foothold in markets where consumers are able to capture private benefits from their purchases. Consider the case of organic food. In addition to specialty stores such as Whole Foods, leading grocery chains such as Kroger, Safeway, and even Wal-Mart carry fairly expansive organic product offerings. Along with their environmental benefits, organic foods offer consumers an important private benefit: health. Selective benefits mitigate collective action issues at the level of stakeholders.

Several VEPs have found ways to offer stakeholders excludable goods in exchange for their support. The chemical industry’s Responsible Care VEP stipulates that facilities establish citizen advisory panels. This affords local citizens, an important stakeholder category, a voice in the management of chemical facilities. This sort of engagement helps citizens understand risk issues and can eventually translate into concrete outcomes such as maintaining property values. Similarly, the EPA’s Energy Star VEP is buoyed by appliance manufacturers and retailers who tout the lower energy bills consumers enjoy with their certified appliances (<http://www.energystar.gov>).

CONCLUSION

VEPs are an institutional response to one of the world’s more important and entrenched collective action problems: the production of environmental public goods. Permissive conditions for VEPs’ emergence include both market and government failures because VEPs reflect the unmet environmental needs of a constituency whose preferences are underserved by extant policy and market systems. Protecting the environment entails an opportunity cost. On this count, our narrative diverges from that of Porter & van der Linde (1995), who suggest that because firms systematically fail to uncover opportunities to reduce costs, well-designed governmental regulations can lower firms’ costs while improving their environmental performance. Their hypothesis was perhaps more plausible in the 1970s and 1980s, when there was ample low-hanging fruit for environmental improvements, but today firms face fewer win-win opportunities. Indeed, firms need to be compensated for investing in environmental stewardship beyond the requirements of the law. VEPs offer an intriguing possibility in this regard.

Several interesting issues for future research emerge from our survey. We conclude by highlighting two of them. The market for environmental virtue may be becoming overpopulated by multiple VEP “products.” One often finds multiple actors sponsoring VEPs aimed at the same issue space. There is little systematic research about how competition among VEPs sponsored by NGOs, firms, and sometimes governments affects stakeholders’ choices and the programs’ efficacy. The example of organic labeling for consumer products could offer an interesting research case. Organic certification by the US Department of Agriculture entered a market where NGO and industry certification standards were just getting established. How do these different VEPs

⁶A 2009 survey commissioned by the National Retail Federation suggests that 60% of consumers claimed to have bought a product specifically for its environmental attributes, and on average 45% of consumers shop at stores because of their green attributes (see http://www.visionmonday.com/ViewContent/tabid/211/catId/183/Parent_content_id/27768/content_id/27779/Default.aspx).



influence consumer attitudes toward organic foods? Which of the VEPs has the highest market share and why? Do these VEPs share some common minimum standards? We do not have a theory yet to predict when and how the sponsoring actors will adopt cooperative strategies as opposed to competitive strategies.

Policy instruments should ultimately be evaluated on their efficacy. The empirically sophisticated VEP literature has made a notable contribution to this effort. Much of the efficacy research has tended to focus on facility-level studies, usually within a single country. Future efficacy research should focus on comparisons across programs in a given country or across countries for a given program. Such studies could show if VEP efficacy systematically varies across countries with different regulatory approaches and social and economic circumstances. Studies comparing efficacy across programs would reveal whether program design influences efficacy. Although participation in a particular VEP might dramatically improve environmental performance within its limited participant roster, the aggregate, country-level pollution reductions (number of participants \times pollution reduction per participant) might be modest (Borck & Coglianese 2009). In contrast, another VEP with less stringent obligations but with a larger membership roster might generate modest per-participant pollution reductions but substantially higher aggregate effects. It is, therefore, important to examine the elasticity of recruitment into VEPs in relation to the stringency of their obligations. Thus, research that is comparative across countries and across VEPs can inform policy debates about when and whether VEPs improve policy outcomes and about their optimal stringency levels and membership size from a welfare perspective.

Future work on VEP effectiveness should also incorporate the spillover effects VEPs generate for nonparticipants (Lyon & Maxwell 2007, Borck & Coglianese 2009). For example, some firms might adopt the management systems specified by a VEP without receiving formal certification owing to the high cost of third-party auditing, which is a prerequisite of such certification. Thus, though not formally counted as VEP participants, such firms might still adopt stewardship policies that reduce pollution. Thus, the aggregate effect of the VEP on pollution reduction might extend beyond what participation counts might suggest. We do not have a theory yet to predict the type and level of spillovers that VEPs with various program designs and sponsorships might generate. We believe this is an exciting area for future research.

Although studying program efficacy is important, both scholars and practitioners should recognize that VEPs can and do fail. Their fit with the policy problem and regulatory context is uneven and their quality variable (Morgenstern & Pizer 2007, Press 2007). To recognize failures is not to suggest discarding VEPs as policy instruments. After all, markets fail and states fail, yet we persist with them and seek to mold their features to specific contexts (Van der Heijden 2012). VEPs and other new policy instruments deserve similar treatment. Sometimes, unfortunately, there is a tendency to portray VEPs as a “retreat of the state” or neoliberal sellout (Steinzor 1998). We urge both more patience and careful research to appreciate both VEPs’ opportunities and their pitfalls.

More broadly, VEPs share many similarities with public regulation, which suggest that both can be examined through a common theoretical framework. We believe that the club theory of VEPs might be one such approach because it is part of a broader theory of public and private governance. In this light, we might think of public regulation as a mandatory club for those within the government’s jurisdiction whereas voluntary clubs have more fluid membership. Both mandatory and voluntary clubs struggle with the issue of shirking, and in both settings monitoring and enforcement are expensive and offer diminishing returns. Both face some sort of recruitment challenge: even the boundaries of mandatory clubs can be porous as capital and labor vote with their feet (Tiebout 1956). Mandatory and voluntary clubs share similar challenges about collective action, matching institutional design to local contexts, and the production and distribution of



collective goods. The club approach can help identify the key characteristics of governance systems, link them to the attributes of their institutional context and their sponsoring actors, and move toward a general theory of governance.

We have presented a club perspective on VEPs and discussed the four collective action challenges facing them. Environmental problems are far too complex and diverse to be solved through a single policy approach. Institutional monoculture is not an option. As Ostrom (1990) emphasized, scholars need to look for solutions beyond the monolithic categories of “the state” or “the market” to develop policy instruments that harness the strengths of each while avoiding their pitfalls. We hope this article contributes to the exciting work on voluntary regulation and encourages scholars to look for new approaches to solve pressing societal problems.

DISCLOSURE STATEMENT

The authors are not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

DEDICATION

This article is dedicated to the memory of Elinor Ostrom, who passed away during its preparation. Lin was a leading scholar of collective action, voluntary governance, and environmental problems. We had the privilege of learning from her as students at Indiana University, Bloomington. Her influence on our scholarship endures.

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