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Local Community Characteristics and Cooperation for Shared Green Reputation

Jorge Rivera, Maria Angelica Naranjo, Juan Robalino,
Francisco Alpizar, and Allen Blackman

This article examines how basic socioeconomic and political factors are associated with higher levels of cooperation to garner a local community's shared green reputation. We analyze panel data on participation efforts in a collective voluntary environmental program, the Ecological Blue Flag Program, by the entire population of beach communities in Costa Rica between 2001 and 2009. Collective voluntary environmental programs are relatively new and aim to improve environmental performance and shared "green" reputation through joint participation and certification of multisector groups comprising businesses, governmental institutions, and nongovernmental organizations. Our results indicate that higher levels of within-community cooperation for shared green reputation are more likely in seashore localities with lower income inequality and/or a higher number of businesses. These findings run counter to research suggesting these same characteristics are associated with lower levels of cooperation in the management of common pool natural resources such as fisheries and forests. We also find that within-community cooperation is positively correlated with a greater proportion of expatriates from industrialized countries and/or with higher levels of democratic political participation.

KEY WORDS: voluntary environmental programs, green reputation, collective action

Introduction

Over the last few decades, there has been a steady increase in the demand for certified environmentally friendly products and services from consumers, companies, and governments from industrialized countries. Accordingly, garnering a green reputation indicating superior environmental protection performance has increasingly become a more valuable intangible asset, not only for business but also for countries and their local communities seeking to attract visitors, investors, and/or new residents. Scholars interested in collective action efforts have identified informal institutional norms present in local communities cooperating to more sustainably manage common-pool natural resources (e.g., forests, water, pastures, fisheries, etc.). These institutional norms include mutually accepted rules and noncompliance

sanctions for resource use and mechanisms for shared monitoring, conflict resolution, and rule modification (Ostrom, 2010). However, we know very little about the characteristics of the local communities that successfully cooperate to attain a shared green reputation. In particular, there is a debate about how basic contextual attributes such as income inequality, business population size, levels of democratic political participation, and foreign resident levels are associated with enhanced local community's management of these natural resources (Ostrom, 2010). This article aims to contribute to this debate by identifying how these basic contextual characteristics are linked to higher within-community cooperation that yields an intangible resource: a shared green reputation. To do this, we use panel data for the entire population of beach communities in Costa Rica, between 2001 and 2009, and analyze how their basic socioeconomic and physical characteristics are associated with participation in a collective voluntary environmental program (VEP), the Costa Rican Blue Flag Program (BFP). Most previous studies examining this question have used cross-sectional data of cooperation by actors using common-pool natural resources and include few controls for the effect of multiple local physical factors (Araral, 2009; Ostrom, 2010).

We define green reputation as having a favorable and publicly recognized standing for credible beyond-compliance environmental-protection performance (King & Whetten, 2008). In contrast to common-pool natural resources that tend to be rival and nonexcludable, a local community's shared green reputation is characterized by being a nonrival and excludable club good (Buchanan, 1965; Prakash & Potoski, 2007). That is, a (nonrival) shared green reputation's branding payoffs are not diminished by the number of local community members benefiting from them. Additionally, community outsiders are excluded from enjoying these benefits. Most importantly for our study, the nonrival feature of a shared green reputation implies that a local community member's poor environmental record taints not only its individual standing but also the green reputation of the other community members (all have a joint reputational fate) (Prakash & Potoski, 2006). This combination of joint reputational fate and ability to exclude outsiders magnifies the effect that contextual differences may have on garnering a local community's shared green reputation. Thus, providing an attractive opportunity to identify how local socioeconomic and political characteristics affect within-community cooperation to attain an intangible shared good different than the widely examined common-pool natural resources.

In addition, our focus on identifying the drivers of participation in a green certification program implemented in a developing country contributes to the scholarly literature on VEPs that has primarily studied the implementation of these initiatives in industrialized nations. In developing countries, given the typical lax and poorly enforced environmental regulations, VEPs are often used as a front-line regulatory tool rather than a means of moving beyond compliance—their usual role in industrialized countries (Blackman, 2008). Hence, the policy lessons from the much larger empirical literature on VEPs in industrialized countries may not apply as the political, institutional, and socioeconomic context is quite different. Our article also seeks to add to previous empirical research that has identified factors that promote participation in conventional VEPs that seek to enroll individual business facilities (Darnall,

Potoski, & Prakash, 2010). By contrast, we seek to identify the drivers of participation in a *collective* VEP. Instead of seeking to enroll individual firm facilities, collective VEPs seek joint group participation and certification of multiple businesses and various organizations from different sectors (e.g., firms, NGOs, and government agencies).

The rest of the article is organized as follows: first we discuss VEPs, then describe the Costa Rican tourism industry and the BFP, next we detail our theory and hypotheses, research methodology, and results. We wrap up by discussing the results and elaborating on the research limitations, conclusions, and policy implications.

Voluntary Environmental Programs

VEPs have become a popular public policy alternative to promote corporate environmental protection and in the United States alone they number in the hundreds. *Traditional* VEPs are self-regulatory agreements adopted by individual firm facilities that commit themselves to improving and disclosing their environmental protection practices. VEPs can also be characterized as institutions that promote collective action by providing nonrival but excludable “club benefits” to members in the form of a shared environmental reputation (Delmas & Montes, 2010). Despite their widespread popularity, traditional VEPs, lacking third-party certification and sanctions based on poor performance, have attracted controversy because they suffer from free-riding behavior that reduces their effectiveness to promote enhanced environmental protection among their participants (Blackman & Rivera, 2011; Darnall & Sides, 2008; Delmas & Keller, 2005; Hughes, 2012). In developing countries, hundreds of VEPs have also been established targeting different industries (Blackman, 2008). Consistent with research in the United States, studies of developing country VEPs suggest a higher tendency to participate in these programs for individual business facilities facing stronger external stakeholder pressures such as: tougher regulatory requirements and monitoring, and greater demands from community, environmentalism, and/or green consumers (Darnall & Sides, 2008; Hughes, 2012; Rivera, 2004).

Collective Voluntary Environmental Programs

We conceptualize *collective* VEPs as those that aim to promote enhanced environmental protection and a shared positive environmental reputation through joint participation and certification of groups involving organizations from multiple sectors (e.g., firms, NGOs, and government agencies). That is, collective VEPs can be understood as self-regulatory institutions that seek to facilitate multisector cooperation aimed at generating positive environmental externalities and obtaining an intangible shared environmental reputation held in common by groups of businesses and other organizations (Prakash & Potoski, 2007). The joint participation and certification requirements of collective VEPs may help to reduce costs of participation and improve environmental performance by facilitating the exchange of resources and

technical information among multisector group participants. These innovative characteristics aim to ameliorate the challenges faced by traditional VEPs to promote multisector collaborative environmental protection. These challenges include: free riding by opportunistic participants, distrust that preempts exchange of environmental management resources and ideas, and individual certification's high costs and technical difficulty for micro to medium-size businesses. Indeed, in developing countries, the technical challenges and costs of adopting a VEP can be prohibitive for all but a few large businesses.

Recently, *collective* VEPs, such as the Ecological Blue Flag Program in Costa Rica, have begun to spark the interest of policymakers, businesses, and environmentalists. Other examples include: (i) the Forest Stewardship Council (FSC) Group Certification that allows smaller landowners and forestry cooperatives to share a single umbrella FSC Certificate (Cashore, Auld, & Newsom, 2004), (ii) Fair-Trade Certification of associations formed by microfarmers in developing countries, and (iii) the U.S. Green Building Council's LEED Neighborhood Development Program Certification.

The Costa Rican Tourism Industry and the BFP

Tourism Industry in Costa Rica

Compared to other developing nations, Costa Rica is widely recognized as a country with successful policies creating and maintaining national parks and other conservation areas that cover just over 25 percent of its territory (Honey, 2008). Since the mid-1980s, these protected natural areas have been essential in helping Costa Rica to become a premier global tourism destination (Honey, 2008; Thrupp, 1990). In 2008, the country received about two million foreign visitors (an eightfold increase since 1987) that spent over \$2.5 billion, making tourism one of the most important sectors of the national economy (Instituto Costarricense de Turismo [ICT], 2009). Opinion surveys consistently show that more than 85 percent of the tourists mention enjoying nature and beaches as one of the main motivations to visit Costa Rica (ICT, 2009). The large increase in the number of tourists visiting Costa Rica has generated a business boom. For instance, since the late 1980s the number of hotels has increased more than 400 percent to 2,589 in the year 2008 (ICT, 2009). Most of these hotels are small, offer basic services, compete based on price, and are located close to national parks and beaches. Indeed, in 2008 a total of 1,355 hotels were located within 0 to 20 K from Costa Rica's beach communities (ICT, 2009). Out of these 1,355 beach hotels, only 14 belonged to an international chain.

Overall, this tourism boom seems to be part of a "virtuous cycle," linked to not only the creation but also the expansion and maintenance of Costa Rica's world-class system of national parks and wildlife protected areas. To be sure, the extent of this exceptional environmental protection dynamic for a developing country arises in the context of Costa Rica's strong and stable democratic traditions and relatively higher income per capita (Honey, 2008; Thrupp, 1990). These contextual characteristics have allowed the flourishing of a strong Costa Rican environmental community

with superior technical expertise, political capital, and high international funding to promote the enactment and actual implementation of national park/protected area regulations.

Nevertheless, it is important to stress that in recent years environmental degradation has become more acute in some of the most visited national parks and beach communities (Honey, 2008; Rivera, 2010). The degree of damage to Costa Rican ecosystems generated by the tourism boom is part of a heated argument among environmentalists, businesses, and policymakers. Scholarly studies suggest that both the flourishing of a strong environmental community and a thriving tourism economy are inextricably linked to Costa Rica's exemplary system of national parks and protected areas (Honey, 2008; Rivera, 2010). Conversely, these studies also link the rapid growth of tourism businesses with detrimental environmental effects in and around popular national parks and coastal destinations. These include wildlife decline, deforestation, soil erosion, wetland and landscape alteration, and higher air and water pollution (Honey, 2008; Rivera, 2010; Thrupp, 1990).

The Blue Flag Program

This program is an international initiative that has been implemented in about 50 countries. It was originally launched in France in 1987 by the Foundation for Environmental Education in Europe and has independently certified the environmental quality of more than 3,800 beaches and marinas worldwide (Creo & Fraboni, 2011; Lucrezi & van der Merwe, 2014; McKenna, Williams, & Cooper, 2011). The BFP is aimed at helping to overcome two collective action problems: First, the challenge of promoting within-community cooperation to garner a shared green reputation for individual beach communities. Second, the difficulty of improving a country's overall reputation for green beach destinations by increasing its number of BFP certified communities.¹

The Costa Rican version of the BFP (named the Ecological Blue Flag Program) was independently developed and launched in 1996 by the Government's Water and Sewer Agency (known as "AyA" for its Spanish name initials) (Blackman, Naranjo, Robalino, Alpízar, & Rivera, 2014; Programa Bandera Azul Ecológica [PBAE], 2008). It is managed and directed by a multisector National Blue Flag Commission with members from AyA, other government agencies, and Costa Rica's Tourism Business Chamber. Like the European version, the Costa Rica's BFP certifies the environmental quality of individual beaches (Blackman et al., 2014; Lucrezi & van der Merwe, 2014; McKenna et al., 2011).² Since the BFP launched in 1996, participation in the program has been open to all 281 Costa Rican beaches identified by the Official Atlas of Costa Rica. In that year, 34 beaches joined the program with enrollment rising to 87 beaches by 2008 (Figure 1) (PBAE, 2008).

Application to the BFP is open annually and participants must renew their membership annually. The National BFP Commission has occasionally and informally offered training and assistance for some beach communities to successfully participate in the program. However, these are not formal features of the BFP. It is

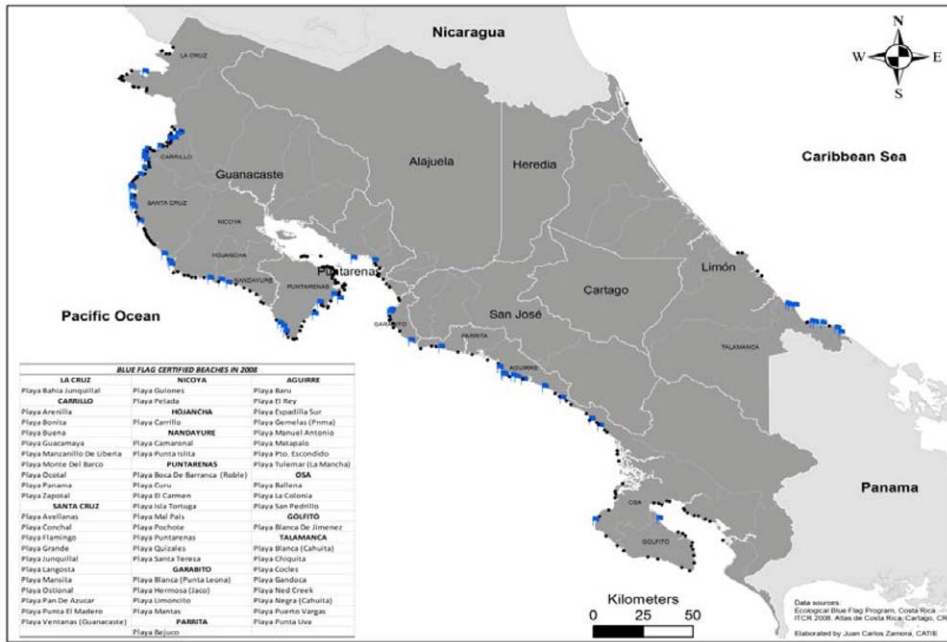


Figure 1. Blue Flag Beaches, 2008.
Source: PBAE (2008).

important to stress that to participate in the BFP, businesses, NGOs, and public agencies operating in beach communities (defined in this article as the localities immediately adjacent to an officially identified beach) must form a joint local BFP Committee, select a leader, establish shared annual goals and work plans, and apply together to receive certification for a particular beach (PBAE, 2008). Participating beach communities undergo, at least, biannual third-party evaluations performed by AyA and Costa Rica’s Institute of Tourism (PBAE, 2008). These evaluations occur at least twice a year and cover several general areas of environmental management: drinking water quality (15 percent of the evaluation score), beach ocean-front water quality (35 percent of the evaluation scores), solid waste and wastewater management (30 percent), environmental education efforts (10 percent), and beach safety (10 percent) (PBAE, 2008).

To obtain and maintain a Blue Flag certification, a beach community needs to receive at least a 90 percent evaluation score in these broad areas of environmental management and submit an annual progress report to the BFP National Commission. This commission annually awards Blue Flag Certification to beach communities in a public ceremony that receives a great deal of attention in Costa Rica’s news media. Indeed, the president of the country has often attended this event (PBAE, 2008).

Socioeconomic Drivers of Cooperation for Shared Green Reputation

Despite a prolific collective action literature, there is little consensus about the effect that local socioeconomic factors may have on promoting *within-community*

cooperation in the management of environmental and natural resources (Araral, 2013; Cox, Arnold, & Villamayor, 2010). This may be because most of these studies have focused on examining the use of tangible common-pool natural resources (e.g., forests, water, pastures, fisheries, etc.) that are nonexcludable and rival. In contrast, a local community's shared green reputation is an intangible club good characterized by being nonrival and excludable (Buchanan, 1965; Prakash & Potoski, 2007). The nonrival feature of a shared green reputation means that a local community member can enjoy its rewards without limiting these reputational benefits for other members (Ingram & Inman, 1996; Prakash & Potoski, 2007). It also implies that a local community actor's poor environmental record taints not only its individual standing but also the green reputation of the other community members (all have a "shared reputational fate"). To be sure, community outsiders have difficulty identifying poor environmental performance at the individual level (Barnett & King, 2008; Tirole, 1996). The excludability of a local community's green reputation denotes that outside actors are precluded from experiencing its positive or negative prestige effects.

The combination of shared reputational fate and outsiders' preclusion magnifies the effect that contextual differences may have on garnering a shared green community reputation. Thus, compared to previous empirical work focused on rival and nonexcludable common-pool resources, examining this community level shared green reputation may provide a better opportunity to identify how specific contextual socioeconomic characteristics affect within-community cooperative environmental protection efforts.

Institutional scholars, from political science, sociology, and economics have stressed the importance of basic contextual characteristics as critical determinants of the cooperative choices and behavior of individuals and organizations (Ostrom, 2010; Scott, 2001). Previous studies have focused on examining how poverty, education, and regulatory pressure levels affect cooperation in the management of common-pool natural resources (Araral, 2009). While controlling for these attributes, we contribute by focusing on examining the effect of other basic local community characteristics that have received scant attention: income inequality, number of businesses, democratic political participation, and the level of foreign residents from industrialized countries.

We believe that these additional basic contextual attributes are important drivers of within community cooperation aimed at garnering a shared green reputation for multiple reasons. First, they play a role in restricting the array of collaboration and competition strategies perceived as legitimate in a local community (Lieberman, 2002). Second, these community characteristics also mold the identities and influence of the actors involved in collaborative efforts to attain a joint green reputation (Scott, 2001). For example, in developing countries businesses and government officials sometimes seek to characterize environmental activists as "socialists" to intimidate them and reduce their legitimacy. Third, these local contextual factors also affect the resources available to actors involved in within-community cooperation for a shared green reputation. For instance, in local communities with high inequality, the disadvantaged are unlikely to engage in cooperation for an intangible good perceived as luxurious, such as a shared green reputation. Additionally, these contextual

characteristics contribute toward limiting/expanding the benefits that collaborators may receive from a local community's shared green reputation (Rivera, 2010). For example, industrialized country expatriates are more likely to have more marketing expertise, making it easier to take advantage of the branding benefits of an enhanced community green reputation.

Income Inequality

A growing body of research, although lacking a consensus, suggests that income inequality may be an important factor affecting environmental protection (Bardhan, Ghatak, & Karaivanov, 2007; Boyce, 2008). Olson's (1965) seminal work on the logic of collective action suggests that local communities with more skewed income distributions (referred to subsequently as unequal communities) tend to protect the environment more because the wealthy few may not only have higher pro-environmental preferences, but also have more resources to engage in efforts to satisfy them (Poteete & Ostrom, 2004). Additionally, in an unequal community, due to easier communication and monitoring within small group sizes, affluent actors can more easily coordinate cooperative efforts and address free-riding (Baland, Bardhan, & Bowles, 2007; Olson, 1965).

Conversely, more recent research work suggests that higher income inequality may be negatively related to environmental protection (Araral, 2009; Baland et al., 2007; Boyce, 2008). Building on this research, we suggest that unequal local communities tend to be less unified in their interests, values, and identity resulting in lower levels of reciprocity and altruism that increase free-riding (Kollock, 1998; Poteete & Ostrom, 2004). This makes it more difficult to engage in within-community cooperation to garner a shared green reputation whose nonrival intangible quality can easily be smeared by the opportunistic behavior of a few actors. Reducing free riding is also more difficult in unequal communities where communication tends to be harder and more sporadic among members with higher income differences (Boyce, 2008). Communication is critical for cooperation for green reputation because it allows diverse actors to monitor each other's past environmental performance, facilitates coordination, makes collaboration commitments explicit, increases chances to exert social sanctions, or rewards on others (e.g., from shunning and shaming to awards and honors), and strengthens group identity (Axelrod, 1984; Kollock, 1998). In addition, cooperation for shared green reputation involves the creation and acceptance of beyond regulatory compliance environmental protection norms. In more unequal local communities, establishing and accepting these beyond compliance norms is tougher because of the combination of more heterogeneous identities/values/interests and harder communication (Araral, 2009; Boyce, 2008). Overall, these arguments suggest the following hypothesis:

Hypothesis 1: Multisector cooperation to earn a shared green reputation is more likely in local communities with lower levels of income inequality.

Number of Businesses

Despite increased coordination challenges, a larger number of businesses operating in a local community may combine their greater resources to offer more resistance to environmental protection demands (Oetzel, 2005). Yet, a larger number of businesses is also more visible and has a greater potential impact on a community's environmental quality. Accordingly, their practices tend to receive more scrutiny from customers, the media, government agencies, and environmentalists (King & Lenox, 2000).

To be sure, it is often difficult for industry stakeholders to identify the specific firms responsible for environmental degradation in a community. Businesses in a locality tend to have a shared green reputation that can be tarnished by the low environmental performance of even a small subset of firms (Barnett & King, 2008; Prakash & Potoski, 2007). A tainted environmental protection reputation tends to be sticky and harder to mend (Tirole, 1996). This inability to single out poorly environmentally performing companies and the "stickiness" of a negative shared green reputation results in enhanced social pressures, media spotlight, and/or regulations affecting all peer businesses in a local community (Prakash & Potoski, 2007). Thus, firms operating in communities with a larger number of similar businesses have a strong incentive to cooperate with multiple stakeholders to improve their joint green reputation. In sum, this reasoning suggests the following hypothesis:

Hypothesis 2: Multisector cooperation to earn a shared green reputation is more likely in local communities with a higher number of businesses.

Democratic Political Participation

Higher levels of democratic political participation may also be associated with higher support for multisector cooperation seeking a shared green reputation. In local communities with higher levels of political participation, traditional democratic rights and liberties (e.g., freedom of press, speech, association, and the ability to run for election and to vote) are more likely to be respected. These freedoms facilitate within-community cooperation for shared green reputation because they open information and advocacy channels to environmentalists that in authoritarian localities are almost exclusively enjoyed by economic and military elites (Neumayer, 2001). Greater democratic political participation also helps to increase the legitimacy of this type of cooperation, vis-à-vis economic growth, because environmentalists can promote the election of like-minded politicians. Hence, cooperation for green community reputation becomes easier as even its opponents experience greater internalization of the shared meaning and importance of beyond-compliance environmental protection prestige.

Additionally, the combination of greater information, lobbying channels, and organized political support allows environmentalists to more effectively identify and

embarrass free-riding actors that, even in small numbers, can taint a community's green reputation. This is key to sustaining a nonrival shared green reputation because chagrined free riders can be gradually chided and in extreme cases be stigmatized. Overall, these arguments suggest the following hypothesis:

Hypothesis 3: Multisector cooperation to earn a shared green reputation is more likely in local communities with higher levels of democratic political participation.

Foreign Resident Levels

We also propose that within-community cooperation for shared green reputation is more likely in areas with a greater proportion of foreign residents from developed countries. These expatriates are more accustomed to heightened environmental protection standards and expectations exerted by their industrialized home countries' governments, environmental groups, the media, and consumers than are developing nations' citizens (Rivera, 2002). Hence, foreign residents from industrialized countries tend to have a higher awareness that a shared green reputation can help to enhance the appeal of a local community to visitors, consumers, and potential residents. They may also have more access to innovative environmental management knowledge that facilitates the adoption of beyond-compliance environmental protection practices required to attain a green community reputation (Rivera & deLeon, 2005). Additionally, they are also more likely to have the expertise and international business connections to more fully exploit the branding benefits of an enhanced community green reputation. This reasoning suggests the following hypothesis:

Hypothesis 4: Multisector cooperation to earn a shared green reputation is more likely in local communities with higher levels of foreign residents from industrialized countries.

Methods

Sample and Data Sources

Our sample includes the whole population of 281 beaches open for tourism in Costa Rica between 2001 and 2008, resulting in a total of 2,248 beach-year observations. To identify this population, we relied on the 2008 National Digital Atlas of Costa Rica (Instituto Tecnológico de Costa Rica [ITCR], 2008). Beach communities are understood in this article as the census tract localities situated immediately adjacent to each beach identified by the 2008 Atlas of Costa Rica. According to the Costa Rica National Census Institute, a census tract is defined as the basic geographic unit for the purpose of taking a census (Instituto Nacional de Estadística y Censos [INEC], 2004). In rural areas of Costa Rica (e.g., beaches) the census tracts match the

towns' limits (INEC, 2004). We also collected the latest available data on beach communities' geographic and socioeconomic characteristics from the 2000 Costa Rican Population Census and the 2008 National Digital Atlas. The list of beach communities participating in the BFP between 2001 and 2008 was obtained from AyA. The Costa Rican Tourism Institute provided figures and precise locations for the 2001–08 population of registered hotels. Using a geographic information system software (ArcGIS), we georeferenced and merged these data at the census tract-level, the finest spatial data resolution, for the specific area occupied by each individual beach community.

Measures

Dependent Variable. Multisector cooperation to gain a local community's shared green reputation was measured using a dummy variable equal to one for coastal communities enrolled in the BFP for each year between 2001 and 2008 and zero otherwise.

Independent Variables of Interest. Income inequality is measured by the 2000 Gini coefficient for the county where each beach community is located. The more unequal the income distribution in a community the closer its Gini coefficient is to a value of one (meaning that one individual possesses all the income); a Gini value equal to zero indicates perfect equality (Greene, 2011). To make interpretation easier, we transformed the Gini coefficient values to percentages (multiplying by a factor of 100). We quantify the number of businesses in each community by the sum of all registered hotels located inside a 5-kilometer (km) radius from the beach georeference point at t-1. Democratic political participation is indicated by the percentage of eligible voters from a given beach community that took part in the last presidential election held in 2006. Foreign resident levels are indicated by the percentage of non-Costa Rican citizens living at a beach community in 2000.³

Control Variables. Average formal education is measured by the mean years of formal education attained by the residents of a beach community in 2000. The international chain hotels variable is measured by the number of these facilities located within 5 km from the beach georeference point at t-1. Population density is measured by the number of inhabitants per square kilometer in the beach community in 2000. Poverty is proxied by the percentage of households with a per capita income equal to or below the poverty line in 2000. Safety is measured by the 2006 county safety index. This index is estimated by the rate per 1,000 habitants of three crimes: domestic violence, robberies, and intentional homicide (ITCR, 2008). Counties with higher safety levels show indexes closer to one. Besides socioeconomic variables, in our analysis we also controlled for other beach community physical characteristics such as distance to: the closest national park, the closest national road, the closest river, and to the Costa Rican capital; annual rain average (measured in meters), average terrain slope (measured in angle degrees), and percentage of forest coverage. All distance variables are measured in kilometers from the beach georeference point.

Analytical Methodology

To test our hypotheses, we used a random effects logit regression, with year fixed-effects. This logit regression approach is recommended because of the binary nature of our dependent variable proxy (community participation in the BFP), the panel nature of our 2001–08 data, and that some of our key independent variable are time-invariant, (Greene, 2011).

Results and Discussion

Model 1 in Table 1 presents results of our random effects logit regression (with year fixed-effects).^{4,6} Model 1's negative and statistically significant coefficient on income inequality indicates support for hypothesis 1's argument that multisector cooperation to earn a shared green reputation is more likely in local communities with lower levels of income inequality. To better illustrate this result, Figure 2 shows how Model 1's estimated probability of green reputation cooperation declines steadily as income inequality increases to the point of becoming negative between Gini coefficient values of 40–45 percent. This is consistent with our argument that localities with more even income distribution tend to have higher shared interests, values, and identities that allow them to display within-community cooperation to gain a joint green reputation. Lower income inequality also increases information sharing among community actors that reduces free-riding behavior by facilitating collaboration, coordination, and monitoring (Habyarimana, Humphreys, Posner, & Weinstein, 2011). Additionally, in unequal communities the combination of more heterogeneous identities/values/interests and harder communication makes more difficult the institutionalization of norms promoting beyond-compliance environmental protection practices that are key to gain a green reputation (Araral, 2009; Boyce, 2008).

Hypothesis 2 posited that localities with a higher number of businesses are more likely to engage in within-community cooperation yielding a shared green reputation. This is supported by Model 1's positive and statistically significant coefficient on the number of businesses variable.⁷ This finding challenges previous research suggesting that larger groups are less likely to cooperate to protect common pool natural resources because of increased coordination and monitoring problems that facilitate free-riding (Olson, 1965; Ostrom, 2010). Interestingly, this may be because firms operating in communities with a larger number of businesses share a green reputational fate generated by outsiders' difficulty in distinguishing poor environmentally performing facilities (Barnett & King, 2008; Prakash & Potoski, 2007). Hence, in these communities, firms have stronger incentives to cooperate to improve their joint green standing to deal with the higher environmental protection expectations and oversight wielded on localities with a larger business sector. To be sure, Costa Rican government figures about the professional affiliation of BFP committee leaders in 2008 indicated that hotel managers most frequently lead (in 41 percent of the cases) the formal multisector cooperative process involved in creating and managing local BFP committees—followed by local community association representatives (20 percent), and environmental group officers (16 percent)—(PBAE, 2008).⁸

Table 1. Descriptive Statistics and Panel Logit Regression Results, 2001–08 Sample

	Mean	Std. Dev.	Model 1 (DV: BFP Participation)	Model 2 (Robustness Test) (DV: BFP Certification)
			Coefficient	Coefficient
Constant	N/A	N/A	91.509*** (20.019) ^a	27.083* (13.649)
<i>Independent variables of interest</i>				
Income inequality	48.93	2.24	-2.298*** (0.356)	-1.067*** (0.283)
Number of businesses ^b	3.94	5.08	0.299* (0.128)	0.050* (0.023)
Democratic political participation	58.93	11.50	0.259** (0.078)	0.173** (0.062)
Foreign resident levels	14.83	14.21	0.263*** (0.051)	0.151*** (0.151)
<i>Control variables</i>				
Average formal education	7.00	1.75	0.946* (0.422)	0.720* (0.336)
International chain hotels	.05	.24	10.768*** (2.264)	4.945** (1.811)
Population density	56.40	237.6	0.038*** (0.004)	0.002 (0.002)
Poverty	21.73	12.45	-0.289*** (0.058)	-0.135* (0.062)
Safety	61.57	16.00	0.058 (0.047)	0.054 (0.035)
Annual rain average	2.84	1.00	0.568 (0.764)	0.946 (0.666)
Average terrain slope	10.00	7.79	-0.177* (0.085)	0.011 (0.082)
Distance to closest national park	15.31	14.07	-0.435*** (0.065)	-0.159** (0.059)
Distance to closest national road	4.07	5.41	-0.888*** (0.162)	-0.380** (0.132)
Distance to closest river	2.56	1.83	-1.388** (0.460)	-0.793* (0.370)
Distance to Costa Rica's capital	136.5	50.18	-0.055** (0.016)	-0.012 (0.019)
Forest density	41.85	28.78	0.015 (0.030)	-0.013 (0.030)
# of observations			1967	1405
Wald chi ²			610.06***	122.06***
Log likelihood			-229.493	-272.82
Rho			0.985***	0.954***

Prob: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

^aStandard errors are in parentheses.

^bFor Model 2, the number of businesses variable is measured within a 10 km radius at t-3.

Results from Model 1 also indicate support for hypothesis 3's reasoning that multisector cooperation to earn a shared green reputation is more likely in local communities with higher levels of democratic political participation ($p < 0.01$).⁹ We suggest that in these communities environmentalists enjoy more access to information, advocacy channels, elected officials, and the media that allow them to more effectively identify and embarrass free-riding actors that can taint a local community's green reputation. This is key to sustaining a nonrival shared green reputation because free riders can be gradually chided and in extreme cases be stigmatized and even ostracized. Additionally, in communities with higher democratic political participation, economic elite groups are less likely to question the political legitimacy of environmental groups and are more willing to partner with them to promote

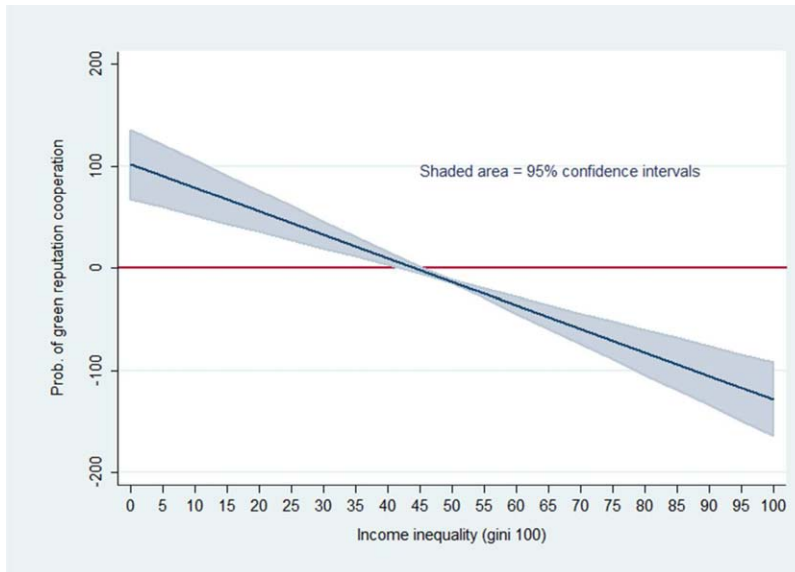


Figure 2. Predicted Probability of Cooperation for Shared Green Reputation by Income Inequality.
Note: Probability estimated while holding other independent variables constant at their means.

beyond-compliance efforts aimed at garnering a shared green reputation (Neumayer, 2001; Rivera, 2010).

Hypothesis 4 posited that cooperation to earn a shared green reputation is more likely in local communities with higher levels of foreign residents from industrialized countries. This hypothesis is supported by Model 1's positive and statistically significant coefficient for the foreign resident levels variable.¹⁰ This may be because industrialized countries' expatriates tend to be more aware and able to take advantage of a community's green reputation branding value. They are also more likely to have the expertise to implement beyond-compliance environmental protection practices required to attain a green community reputation (Rivera & deLeon, 2005). This higher awareness and expertise may arise from foreign residents' longer experience with the stricter environmental protection norms in their industrialized home countries.

Finally, consistent with previous literature examining drivers of enhanced environmental protection efforts, Model 1's findings for our control variables suggest that within-community cooperation to acquire a shared green reputation tends to be greater in localities with lower levels of poverty, higher levels of formal education, greater population density, and/or a higher number of international chain hotels (Agrawal, 2002; Araral, 2009; Poteete & Ostrom, 2004). Similarly, Model 1 results suggest that multisector cooperation to garner a shared green reputation is more likely for communities that are closer to: a national park, a national road, a river, and/or the Costa Rican capital; and also those located on a flatter terrain. In Costa Rica, environmental monitoring by the government, environmentalists, and the media tends to be more stringent in beach communities situated closer to national

parks, those with more international chain hotels, easier transportation access, and/or higher population density where environmental degradation is more visible to tourists (Rivera, 2002).¹¹

Robustness Checks

Seeking to verify the overall robustness of our findings, we calculated a new regression model to identify how our socioeconomic variables of interest are related to an alternative dependent variable: *receiving BFP certification* (please see Model 2, Table 1). Compared to using participation in the BFP, receiving the BFP Certification provides an indication of within-community cooperation actually succeeding at attaining at least a 90 percent performance score in the BFP's four broad areas of environmental management performance (PBAE, 2008). Results of Model 2 are consistent with those of Model 1. However, it is important to note for this alternative regression model the number of businesses variable is positive and significant when measured within a 10 km radius and lagged at t-3 or t-2 but not significant when measured—as in Model 1—within a 5 km radius at t-1.

Accordingly, to further assess the results' robustness for the number of businesses variable we recalculated Model 1 with a t-2 lag. This alternative model (not shown) also yielded a positive and significant coefficient (0.375, $p < 0.01$) for the number of businesses. Additionally, as a supplementary robustness check, we were able to collect data on the entire population of both registered and nonregistered beach hotels operating in Costa Rica for 2008 ($n = 1,355$). Then, using alternative "number of businesses" measures at different radius distances, we calculated additional regression models for the year 2008. For all the alternative cross-sectional probit models (please see Table 2), the coefficient on the number of businesses variable was positive and statistically significant. Overall, these robustness checks confirm Model 1's support for hypothesis 2 suggesting a positive link between the number of businesses in a community and their propensity to engage in multisector cooperation for a shared green reputation.

Limitations and Future Research

The findings from our study need to be considered in the context of important limitations. First, the generalizability of our findings is prevented by our focus on examining Costa Rican beach communities' adoption of the BFP. Costa Rica is a premier tourism destination thanks to its world-class national parks linked to thriving and stable democratic traditions, higher economic prosperity, and stronger environmental groups (Honey, 2008; Thrupp, 1990). Hence, additional assessments of collective VEPs implemented in other countries and industries are necessary. Second, our community-level analysis does not examine how the total number of BFP certified communities contributes to Costa Rica's overall green reputation for its beaches. Building and maintaining this overall country green reputation is also an important national-level collective-action problem

Table 2. Supplementary Robustness Tests: Regression Coefficients for the Number of Businesses Variable at Alternative Distance Specifications, 2008 Cross-Sectional Sample^a (Dependent Variable: Participation in the BFP)

Number of Businesses at	Coefficient	Marginal Coefficient ^b
0 km	0.035* (0.074) ^c	0.012
5 km	0.016** (0.005)	0.005
10 km	0.011** (0.003)	0.004
15 km	0.011** (0.004)	0.004
20 km	0.006* (0.003)	0.002

* $p < 0.05$; ** $p < 0.01$.

^aCoefficients for additional control variables included in these probit models are not shown. Their statistical significance is similar to those of the regression model shown in Table 2.

^bMarginal coefficients estimated at the mean value of the respective “number of hotels” variable.

^cStandard errors are in parentheses.

that the BFP seeks to overcome. Future research needs to assess how differences in national contexts affect variations in the total number of communities adopting a collective VEP like the BFP.

Third, our study does not assess the potential benefits received by Costa Rican beach communities garnering a shared green reputation. Future research needs to build on recent publications beginning to examine whether BFP communities generate higher levels of environmental protection, attract more tourists, and hotel investment than nonparticipant localities (Blackman et al., 2014; Creo & Fraboni, 2011; Lucrezi & van der Merwe, 2014; McKenna et al., 2011). Fourth, although our panel data and use of lagged measures help to ameliorate endogeneity in our analysis, we cannot discard reverse causality. Future research needs to explore, for example, if our findings are the result of a virtuous cycle in which more businesses in a community leads to greater cooperation for shared green reputation, which in turn attracts more businesses.

Fifth, we did not explore potential interactions that may modify the magnitude and/or nature of the relationships between community characteristics and the likelihood of within-community cooperation to garner a shared green reputation. Future research needs to examine these potential moderating effects. Sixth, although our analysis is at the community level, our proxy measures for two variables, income inequality and safety, use county-level figures. Seventh, while our regression models include a rich set of control variables, particularly for a developing country where data tend to be scarce, we cannot rule out the possibility of unobserved drivers that may also affect participation in the BFP. Future studies can overcome these limitations as newer and more spatially precise data are generated by the next decennial census of Costa Rica.

Conclusions

Promoting cooperation for environmental protection is a long-standing challenge that becomes much harder when it involves multisector actors from businesses,

environmentalists, governments, and local communities. This is particularly important in developing countries where the enactment and implementation of environmental regulations are spotty at best. Our study contributes toward providing insights about this issue by examining how sociopolitical and economic characteristics affect within-community cooperation to garner a shared green reputation. This is a question for which there is still little consensus among scholars studying collective action. Cooperation for a shared green reputation is intriguing because it offers local communities a chance to take advantage of increasing demand for products and services with a credible standing for beyond-compliance environmental protection.

The results of our analysis of 10 years of participation in a collective VEP, the Costa Rican Blue Flag, suggest that higher cooperation for a shared green reputation is more likely in beach communities with lower income inequality and/or larger business population size. These findings challenge previous research indicating higher levels of cooperation in the management of common-pool natural resources for local communities with higher inequality and/or smaller business population size. Our study also provides initial evidence about how greater cooperation for shared green reputation is more likely in local communities with higher democratic political participation and/or higher levels of foreign residents from industrialized countries.

Finally, although our findings cannot be generalized to other countries, we believe that our analysis of participation in the Costa Rican Blue Flag Program suggests interesting implications for policymakers. This is because, given Costa Rica's highly recognized success in nature conservation, its environmental policies and programs tend to be imitated and promoted in other developing countries. We posit that collective VEPs providing a certified joint green reputation can be an appealing environmental policy instrument that takes advantage of the increasing demand for environmentally certified products and services. To be sure, their use as complements to mandatory regulations is more attractive in industries like tourism (and organic food) where beyond-compliance environmental quality is highly valued by citizens from industrialized countries. In this case, policymakers can expect—instead of the usual private sector opposition to more environmental protection—to actually find higher business cooperation and leadership to adopt collective voluntary programs. Yet, our findings also indicate that despite collective voluntary programs' design to divide costs and reduce technical challenges through multisector cooperation, they do not appear to attract higher participation by disadvantaged local communities (e.g., those that are more unequal, poorer, have fewer businesses, and/or show lower democratic political participation). Hence, to help these communities realize the branding benefits from a certified green reputation, collective VEPs need to be modified to provide underprivileged communities with the training and assistance to successfully manage and sustain multisector cooperation. Contributing to the provision of this assistance to disadvantaged communities could be made part of a recertification requirement for communities already enrolled in a collective VEP.

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Notes

1. We thank one of our anonymous reviewers for pointing out this additional country-level collective action challenge.
2. In the late 2000s, the Costa Rican BFP launched new certification categories for mountain localities, schools, indigenous communities, and watersheds (PBAE, 2008).
3. Most of the expatriates living in Costa Rican seashore communities come from industrialized countries.
4. Year dummy regression coefficients are not displayed in Table 1; all are positive, statistically significant, and their magnitude increases over the years.
5. An alternative regression with regional fixed-effects yields findings consistent with those of the year-fixed-effects regression models displayed in Table 2.
6. Variance inflation factor tests indicate no multicollinearity concerns. The average formal education variable showed the highest variance inflation factor (VIF) at 2.06. This is far from the critical cutoff ($VIF > 10$) indicating "harmful multicollinearity" (Greene, 2011).
7. The odds ratio for this variable is 1.348, indicating that each additional hotel results in a 34.8 percent increase in the odds of engaging in multisector cooperation for a green community reputation.
8. To qualitatively inquire about the reasons for participating in the BFP program, in 2008–09 we conducted in-depth open-ended interviews with the founder and director of the BFP in Costa Rica, hotel managers, and community leaders at 12 beach communities (including nonparticipant beaches). The respondents suggested that: "Seeking to attract more tourists was the main reason to participate in the BFP." Respondents also indicated that they "copied neighboring beaches already enrolled in the BFP" as they became aware of how participating in the program helped to attract more tourists. These interviews also revealed that the most frequent reason attributed for not participating in the BFP was: "Lack of a leader taking the initiative to organize a local BFP committee in charge of pursuing the formal process of participation."
9. The 1.296 odds ratio for this coefficient suggests that a 1 percent increase in the level of democratic political participation results in a 29.6 percent increase in the odds of cooperation for a green community reputation.
10. For this variable, its 1.301 odds ratio indicates a 30.1 percent increase in the odds of multisector cooperation for community green reputation for each unit of increase in the proportion of industrialized country expatriates.
11. Regarding the level of safety, we believe that the small variability in safety levels across the population of beach communities may explain the lack of significance of this coefficient.

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